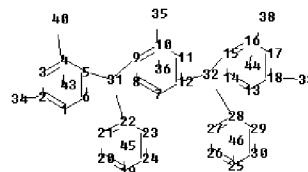
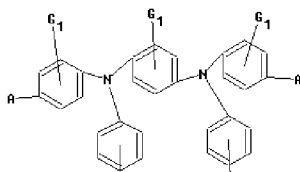


# STN-10/582, 459

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Uploading C:\Program Files\STNEXP\Queries\10582459#1.str



chain nodes :

31 32 33 34 35 38 40 41 42

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23  
24 25 26 27 28 29 30

chain bonds :

2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15  
15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27  
27-28 28-29  
29-30

exact/norm bonds :

2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15  
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27-28 28-29  
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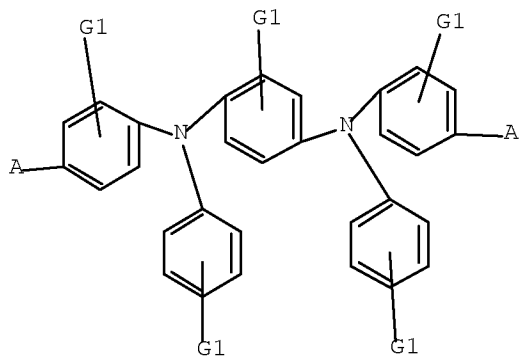
G1: Ak, H

Match level :

1: Atom 2: Atom 3: Atom 4: Atom 5: Atom 6: Atom 7: Atom 8: Atom 9: Atom 10: Atom  
11: Atom 12: Atom 13: Atom 14: Atom 15: Atom 16: Atom 17: Atom 18: Atom 19: Atom  
20: Atom 21: Atom  
22: Atom 23: Atom 24: Atom 25: Atom 26: Atom 27: Atom 28: Atom 29: Atom 30: Atom  
31: CLASS 32: CLASS  
33: CLASS 34: CLASS 35: CLASS 36: Atom 38: CLASS 40: CLASS 41: CLASS 42: CLASS  
43: Atom 44: Atom  
45: Atom 46: Atom

L1 STRUCTURE UPLOADED

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=> d l1
L1 HAS NO ANSWERS
L1 STR
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G1 Ak,H

Structure attributes must be viewed using STN Express query preparation.

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SAMPLE SCREEN SEARCH COMPLETED - 497 TO ITERATE

100.0% PROCESSED 497 ITERATIONS 50 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
                        BATCH **COMPLETE**
PROJECTED ITERATIONS: 8603 TO 11277
PROJECTED ANSWERS: 1114 TO 2206
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L2 50 SEA SSS SAM L1

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FULL SCREEN SEARCH COMPLETED - 9757 TO ITERATE
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100.0% PROCESSED 9757 ITERATIONS 1783 ANSWERS
SEARCH TIME: 00.00.01
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L3 1783 SEA SSS FUL L1

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=> s l3
L4 1050 L3
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=> s l3 and electrolumin?
      1050 L3
      100932 ELECTROLUMIN?
L5 440 L3 AND ELECTROLUMIN?
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=> s l5 and suz?
      11754 SUZ?
L6 6 L5 AND SUZ?
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L6 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2007:1300534 CAPLUS Full-text  
DOCUMENT NUMBER: 147:542520  
TITLE: Polymers containing 9,9-dimethylfluorene for use in  
optoelectronic devices  
INVENTOR(S): Conway, Natasha; Grizzi, Ilaria; Towns, Carl  
PATENT ASSIGNEE(S): CDT Oxford Limited, UK  
SOURCE: PCT Int. Appl., 36 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007129015	A1	20071115	WO 2007-GB1420	20070419
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW			
RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
GB 2440934	A	20080220	GB 2006-8499	20060428
GB 2440934	B	20091216		
EP 2016112	A1	20090121	EP 2007-732462	20070419
R:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, RS			
JP 2009535795	T	20091001	JP 2009-507140	20070419
CN 101448869	A	20090603	CN 2007-80018370	20081119
KR 2009005224	A	20090112	KR 2008-728993	20081127
US 20090322213	A1	20091231	US 2009-298239	20090224
PRIORITY APPLN. INFO.:			GB 2006-8499	A 20060428
			WO 2007-GB1420	W 20070419

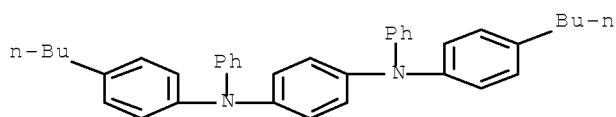
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A polymer for use in an optoelectronic device comprises aromatically conjugated repeating units of optionally substituted 9,9-dimethylfluorene. The polymer has improved thermal stability and longer life time compared to prior art polymers containing 9,9-dioctylfluorene, 9,9-diphenylfluorene and N,N'-bis(4-butylphenyl)-N,N'-diphenyl-1,4-benzenediamine units, and can be used in blue-emitting electroluminescent devices.

IT 423774-96-3D, Suzuki-coupled diphenylfluorene- and dioctylfluorene- and dimethylfluorene-containing polymers  
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(polymers containing 9,9-dimethylfluorene for use in optoelectronic devices)

RN 423774-96-3 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-butylphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
(1 CITINGS)  
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2006:656052 CAPLUS Full-text

DOCUMENT NUMBER: 145:125250

TITLE: Blue-shifted triarylamine polymer for  
electroluminescent devices

INVENTOR(S): Mckiernan, Mary; Patel, Nalinkumar; Foden, Clare;  
Leadbeater, Mark; Tierney, Brian; Conway, Natasha

PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK; CDT Oxford  
Limited

SOURCE: PCT Int. Appl., 61 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006070184	A1	20060706	WO 2005-GB5056	20051223
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM US 20090146164 A1 20090611 US 2008-813180 20081009 PRIORITY APPLN. INFO.: GB 2004-28445 A 20041229 WO 2005-GB5056 W 20051223				

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A semiconductive conjugated polymer comprises the repeating unit  
 $\text{Ar}_1\text{N}(\text{Ar}_2)\text{Ar}_3\text{N}(\text{Ar}_4)\text{Ar}_5$ : where  $\text{Ar}_1$ ,  $\text{Ar}_3$ , and  $\text{Ar}_5$  are the same or different and  
 each represent an optionally substituted aryl or heteroaryl group;  $\text{Ar}_2$  and  $\text{Ar}_4$   
 are the same or different and each represent a substituted aryl or heteroaryl  
 group; and characterized in that  $\text{Ar}_2$  and  $\text{Ar}_4$  sterically interact with one  
 another so as to cause an increase in the bandgap of the polymer. The  
 triarylamine polymers are useful in LEDs.

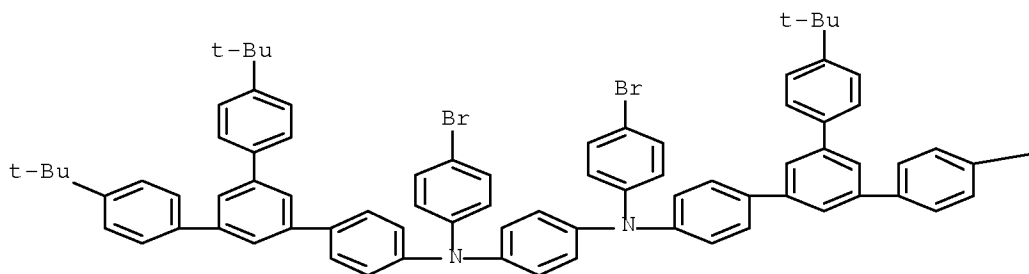
IT 1057075-34-9

RL: PRPH (Prophetic)

(Blue-shifted triarylamine polymer for electroluminescent

devices)  
 RN 1057075-34-9 CAPLUS  
 CN INDEX NAME NOT YET ASSIGNED

PAGE 1-A



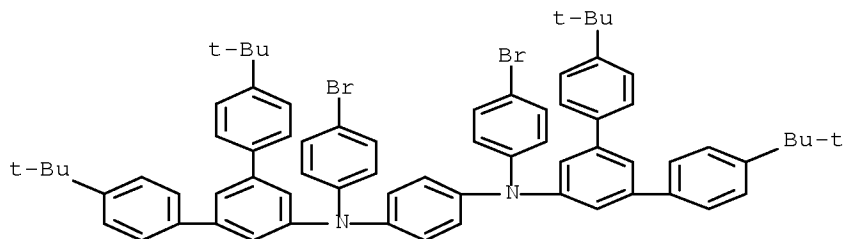
PAGE 1-B

—Bu-t

IT 897365-67-2P  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (blue-shifted triarylamine polymer for electroluminescent devices)  
 RN 897365-67-2 CAPLUS  
 CN 1,4-Benzenediamine, N,N'-bis[4,4''-bis(1,1-dimethylethyl)[1,1':3',1''-terphenyl]-5'-diyl]-N,N'-bis(4-bromophenyl)-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene and 2,7-dibromo-9,9-diphenyl-9H-fluorene (9CI) (CA INDEX NAME)

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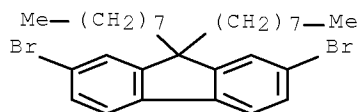
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CRN 198964-46-4

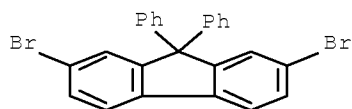
CMF C29 H40 Br2



CM 3

CRN 186259-63-2

CMF C25 H16 Br2



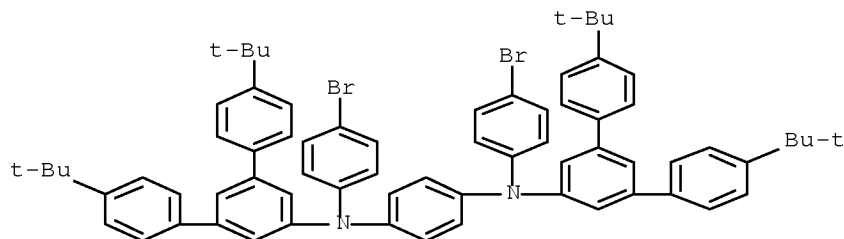
IT 897365-66-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(monomer; blue-shifted triarylamine polymer for electroluminescent devices)

RN 897365-66-1 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis[4,4''-bis(1,1-dimethylethyl)[1,1':3',1''-terphenyl]-5'-yl]-N,N'-bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:

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THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

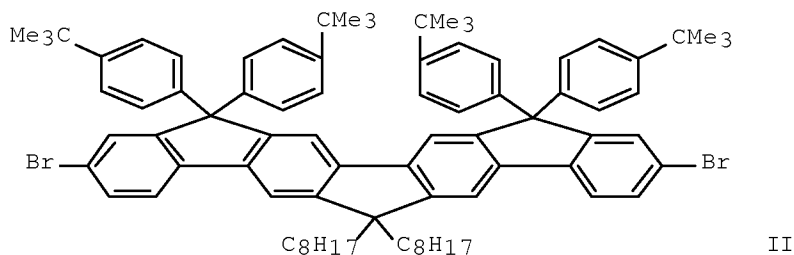
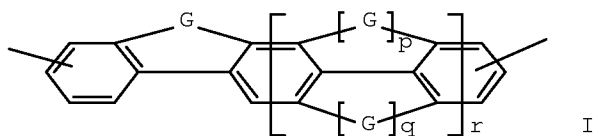
L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2006:151223 CAPLUS Full-text

DOCUMENT NUMBER: 144:233620

TITLE: Polymers for use in organic electroluminescent devices  
 INVENTOR(S): McKiernan, Mary; Towns, Carl  
 PATENT ASSIGNEE(S): Covion Organic Semiconductors GmbH, Germany  
 SOURCE: PCT Int. Appl., 33 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006015862	A1	20060216	WO 2005-EP8718	20050811
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1627891	A1	20060222	EP 2004-19030	20040811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
EP 1776404	A1	20070425	EP 2005-787939	20050811
EP 1776404	B1	20080102		
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
CN 101001901	A	20070718	CN 2005-80026915	20050811
AT 382647	T	20080115	AT 2005-787939	20050811
JP 2008509266	T	20080327	JP 2007-525255	20050811
KR 2007051265	A	20070517	KR 2007-703096	20070208
US 20070252139	A1	20071101	US 2007-659899	20070209
US 7592622	B2	20090922		
US 20090253883	A1	20091008	US 2009-481220	20090609
PRIORITY APPLN. INFO.:			EP 2004-19030	A 20040811
			WO 2005-EP8718	W 20050811
			US 2007-659899	A3 20070209
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT				
OTHER SOURCE(S):			MARPAT 144:233620	
GI				



AB A polymer comprises an optionally substituted first repeat unit, I, where G = divalent residue;  $r \geq 1$ ;  $p, q = 0$  or  $1$ ; and G comprises a heteroatom in the case where  $n$  (sic) =  $1$ . Monomer II (preparation given) could be polymerized forming blue light-emitting copolymer.

IT 876107-80-1P 876107-81-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(polymers based on diindenofluorene monomers for electroluminescent devices)

RN 876107-80-1 CAPLUS

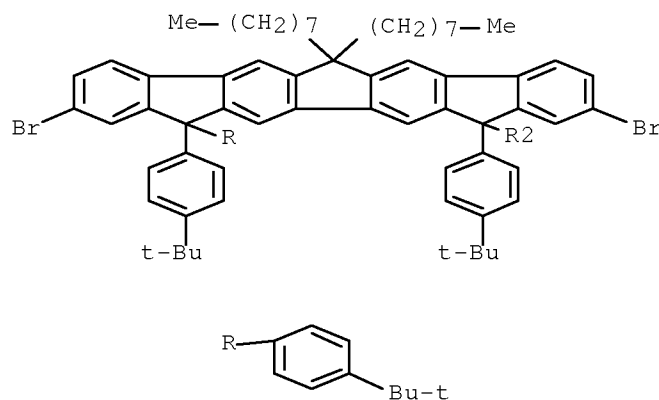
CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with 2,10-dibromo-12,12,15,15-tetrakis[4-(1,1-dimethylethyl)phenyl]-12,15-dihydro-6,6-dioctyl-6H-diindeno[1,2-b:2',1'-h]fluorene and 2,2'-[2',3',6',7'-tetrakis(3-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

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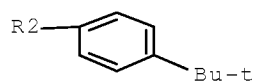
CRN 876107-73-2

CMF C83 H96 Br2

PAGE 1-A



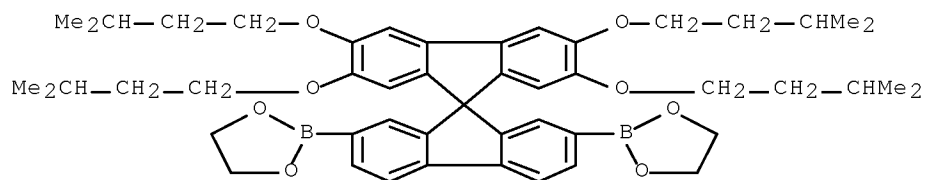




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CRN 807374-60-3

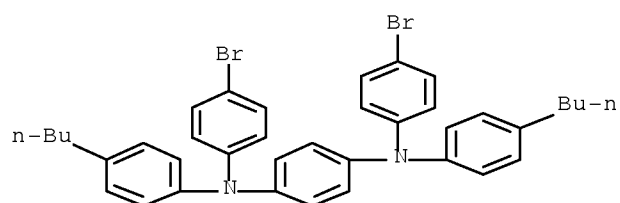
CMF C49 H62 B2 O8



CM 3

CRN 372200-89-0

CMF C38 H38 Br2 N2



RN 876107-81-2 CAPLUS

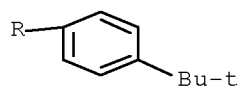
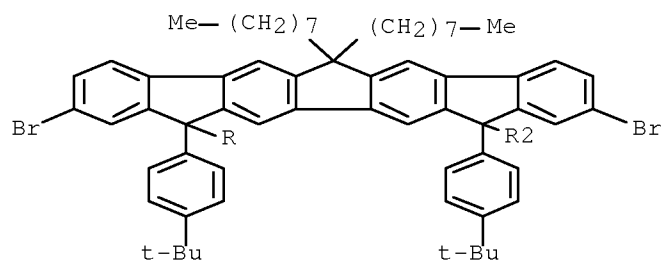
CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with 2,10-dibromo-12,12,15,15-tetrakis[4-(1,1-dimethylethyl)phenyl]-12,15-dihydro-6,6-dioctyl-6H-diindeno[1,2-b:2',1'-h]fluorene and 2,2'-(6,12-dihydro-6,6,12,12-tetraoctylindeno[1,2-b]fluorene-2,8-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

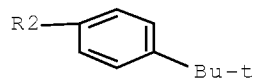
CRN 876107-73-2

CMF C83 H96 Br2

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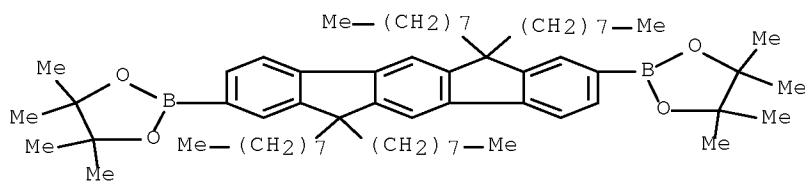
PAGE 2-A



CM 2

CRN 628303-20-8

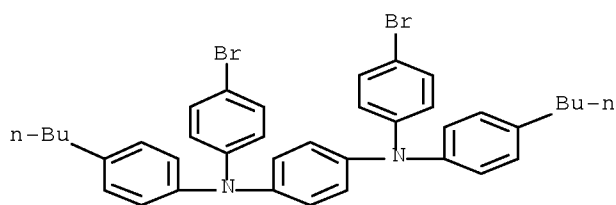
CMF C64 H100 B2 O4



CM 3

CRN 372200-89-0

CMF C38 H38 Br2 N2



OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD  
(16 CITINGS)  
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 2005:1050577 CAPLUS Full-text  
DOCUMENT NUMBER: 143:348231  
TITLE: White ~~electroluminescent~~ polymeric material  
& preparation thereof  
INVENTOR(S): Wang, Lixiang; Tu, Guoli; Cao, Jianxin; Liu, Jun; Ma,  
Dongge; Jing, Xia Bin; Wang, Fosong  
PATENT ASSIGNEE(S): Changchun Institute of Applied Chemistry Chinese  
Academy of Science, Peop. Rep. China  
SOURCE: U.S. Pat. Appl. Publ., 55 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050214568	A1	20050929	US 2005-42193	20050126
US 7579091	B2	20090825		
CN 1580179	A	20050216	CN 2004-10010770	20040329
CN 100363458	C	20080123		
CN 101113326	A	20080130	CN 2007-10128962	20040329
CN 101113327	A	20080130	CN 2007-10128969	20040329
CN 100543059	C	20090923		
US 20070270570	A1	20071122	US 2007-779101	20070717
PRIORITY APPLN. INFO.:			CN 2004-10010770	A 20040329
			US 2005-42193	A3 20050126

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A white ~~electroluminescent~~ polymeric material is also described comprising a single white ~~electroluminescent~~ polymeric material consisting of type(I) main chain type single white ~~electroluminescent~~ polymeric material by the general formula I, type(II) pendant chain type single white ~~electroluminescent~~ polymeric material by the general formula II , and type(III) terminal group type single white ~~electroluminescent~~ polymeric material by the general formula III (R1 = alkyl, aryl; Ar1 = naphthalimide derivative with basic unit

described in the text; R2 = alkyl, alkoxy, Ph and Ph substituted by alkyl or alkoxy; Ar2 = heterocyclic unit described in the text). A process for preparing the white electroluminescent polymeric material is also described entailing (1) providing a monomer selected from a group consisting of monomers with a general formulas IV, V (m = 0-20), VI, and VII; (2) providing a monomer by the general formula VIII and (3) polymerizing the monomers using the Yamamoto polymerization method or the Suzuki polymerization method.

IT 865779-67-5P 865779-70-0P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(white electroluminescent polymeric material and preparation)

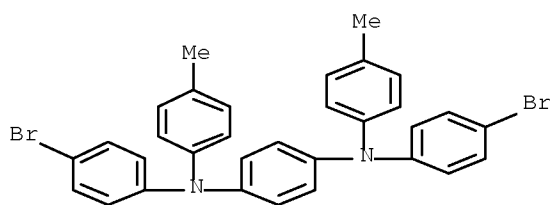
RN 865779-67-5 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,  
6-[bis[4-[(4-bromophenyl)(4-methylphenyl)amino]phenyl]amino]-2-[4-(1,1-dimethylethyl)phenyl]-, polymer with  
N,N'-bis(4-bromophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine and  
2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

CM 1

CRN 865779-66-4

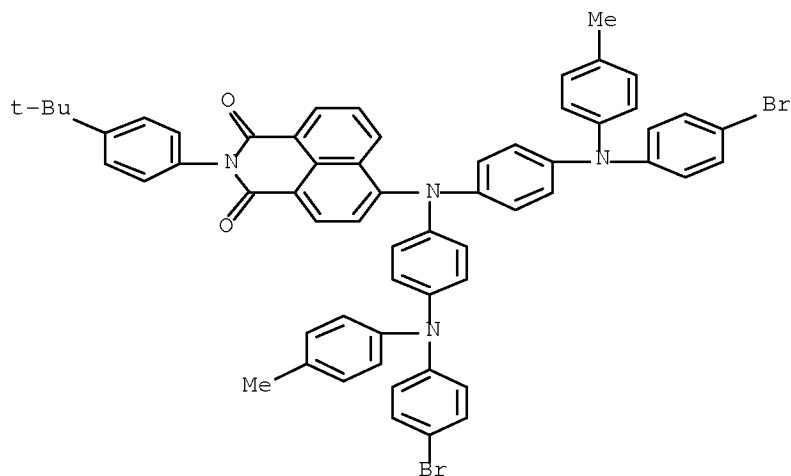
CMF C32 H26 Br2 N2



CM 2

CRN 865779-32-4

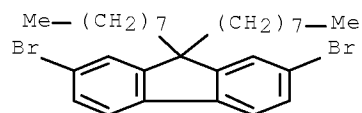
CMF C60 H48 Br2 N4 O2



CM 3

CRN 198964-46-4

CMF C29 H40 Br2



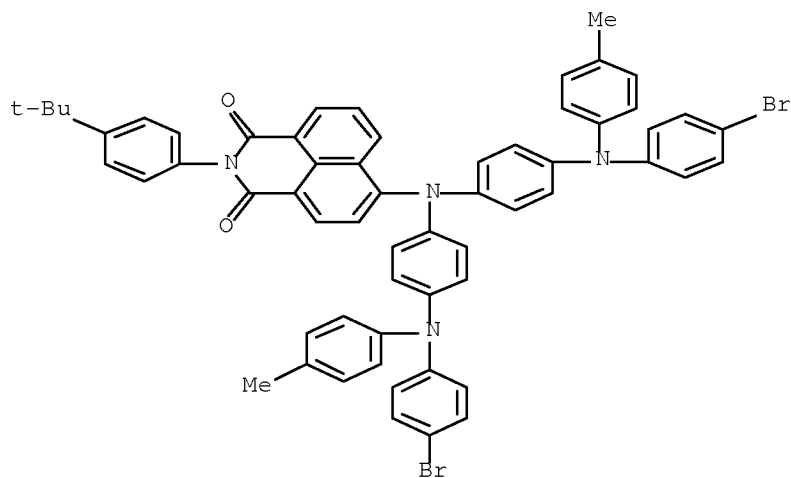
RN 865779-70-0 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,  
6-[bis[4-[(4-bromophenyl)(4-methylphenyl)amino]phenyl]amino]-2-[4-(1,1-dimethylethyl)phenyl]-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene  
and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[1,3,2-dioxaborinane] (9CI)  
(CA INDEX NAME)

CM 1

CRN 865779-32-4

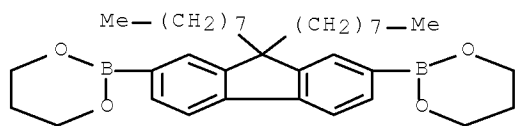
CMF C60 H48 Br2 N4 O2



CM 2

CRN 317802-08-7

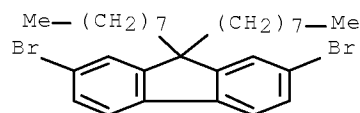
CMF C35 H52 B2 O4



CM 3

CRN 198964-46-4

CMF C29 H40 Br2

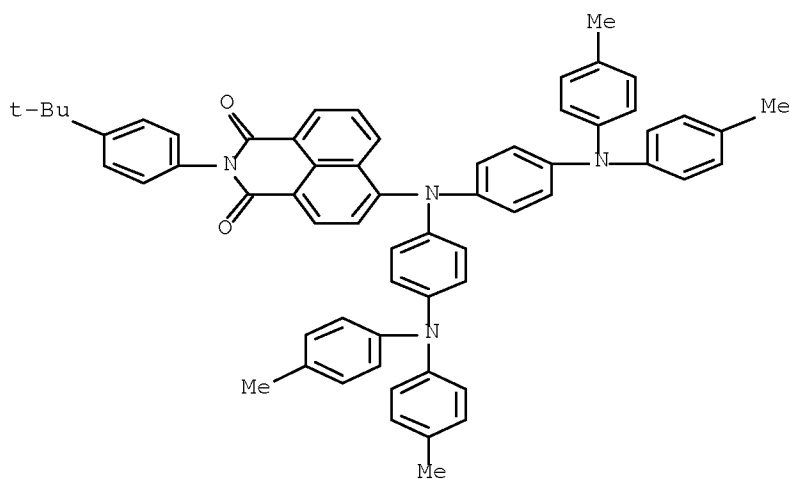


IT 865779-30-2P 865779-32-4P 865779-58-4P  
865779-59-5P

RL: IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); PREP  
(Preparation); RACT (Reactant or reagent)  
(white electroluminescent polymeric material and preparation)

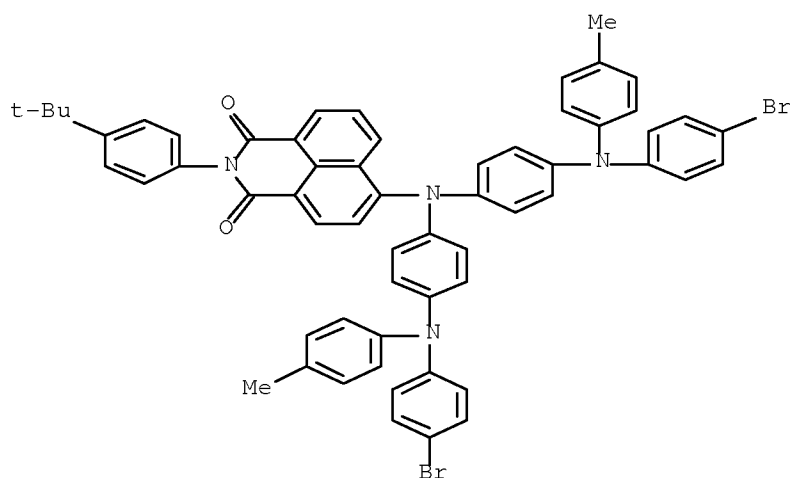
RN 865779-30-2 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,  
6-[bis[4-[bis(4-methylphenyl)amino]phenyl]amino]-2-[4-(1,1-  
dimethylethyl)phenyl]- (CA INDEX NAME)



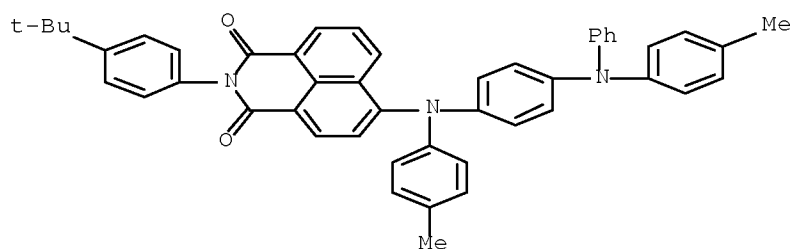
RN 865779-32-4 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,  
6-[bis[4-[(4-bromophenyl)(4-methylphenyl)amino]phenyl]amino]-2-[4-(1,1-  
dimethylethyl)phenyl]- (CA INDEX NAME)



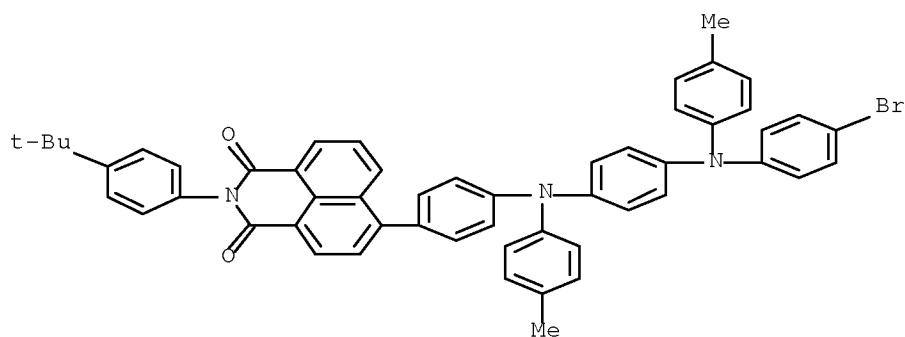
RN 865779-58-4 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,  
2-[4-(1,1-dimethylethyl)phenyl]-6-[(4-methylphenyl)[4-(4-methylphenyl)phenylamino]phenyl]amino]- (CA INDEX NAME)



RN 865779-59-5 CAPLUS

CN 1H-Benz[de]isoquinoline-1,3(2H)-dione,  
6-[4-[[4-[(4-bromophenyl)(4-methylphenyl)amino]phenyl](4-methylphenyl)amino]phenyl]-2-[4-(1,1-dimethylethyl)phenyl]- (CA INDEX NAME)



L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2004:1059414 CAPLUS Full-text

DOCUMENT NUMBER: 142:39562

TITLE: Manufacture of solution-processable semiconductive polymers with improved hole transporting properties and their use

INVENTOR(S): Wallace, Paul

PATENT ASSIGNEE(S): Covion Organic Semiconductors G.m.b.H., Germany

SOURCE: PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004106409	A1	20041209	WO 2004-EP5818	20040528
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
EP 1633801	A1	20060315	EP 2004-739446	20040528
EP 1633801	B1	20080409		
R:	DE, FR, GB, NL			
CN 1768093	A	20060503	CN 2004-80008649	20040528
JP 2007504342	T	20070301	JP 2006-529951	20040528
US 20060241202	A1	20061026	US 2006-558578	20060201
PRIORITY APPLN. INFO.:			EP 2003-12409	A 20030530
			WO 2004-EP5818	W 20040528

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB The semiconductive polymers are useful for thin film electronic and optical devices, such as organic light emitting diodes (OLED) and photovoltaic devices, e.g. solar cells and photo detectors. The semiconductive polymers can be obtained by the Yamamoto or Suzuki polymerization method where increase of the number of nitrogen atoms in the backbone of repeat unit of a semiconducting polymer improves its hole transporting capability. Appropriate selection of the polymerizable group of a monomer of a repeat unit enables the monomer to be polymerized by the Yamamoto or Suzuki polymerization which afford greater control over regioregularity of polymers as compared to prior art polymers.

IT 807374-47-6P 807374-61-4P 807374-75-0P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(manufacture of solution-processable semiconductive polymers with improved hole transporting properties and their use)

RN 807374-47-6 CAPLUS

CN 1,4-Benzenediamine, N-(4-bromophenyl)-N'-[4-[(4-bromophenyl)(4-butylphenyl)amino]phenyl]-N-(4-butylphenyl)-N'-[4-(1-methylpropyl)phenyl]-

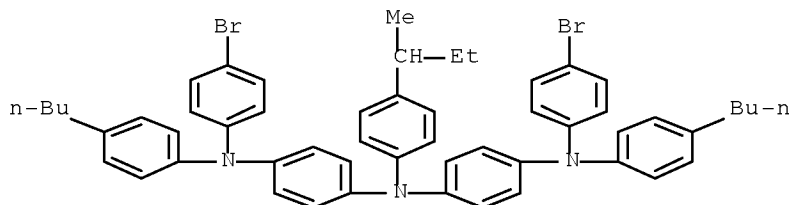


, polymer with 2,2'-(6,12-dihydro-6,6,12,12-tetraoctylindeno[1,2-b]fluorene-2,8-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI)  
(CA INDEX NAME)

CM 1

CRN 807374-46-5

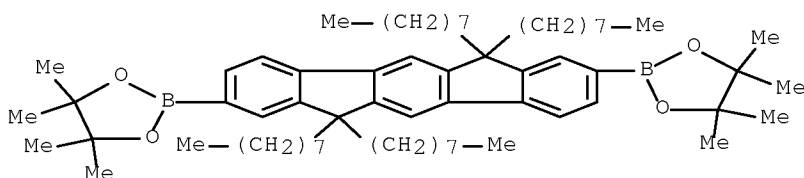
CMF C54 H55 Br2 N3



CM 2

CRN 628303-20-8

CMF C64 H100 B2 O4



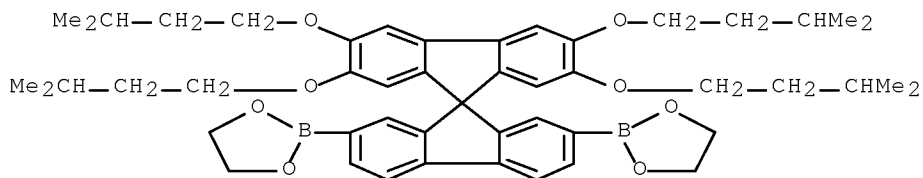
RN 807374-61-4 CAPLUS

CN 1,4-Benzenediamine, N-(4-bromophenyl)-N-(4-butylphenyl)-N'-[4-[(4-bromophenyl)(4-butylphenyl)amino]phenyl]-N'-[4-(1-methylpropyl)phenyl]-, polymer with 2,2'-[2',3',6',7'-tetrakis(3-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 807374-60-3

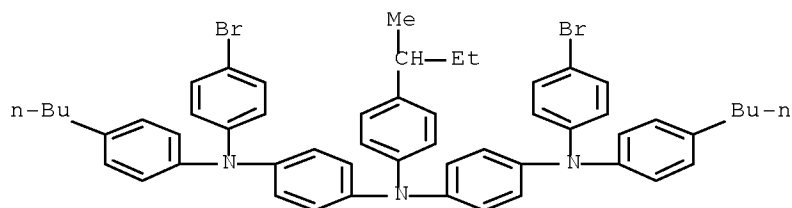
CMF C49 H62 B2 O8



CM 2

CRN 807374-46-5

CMF C54 H55 Br2 N3



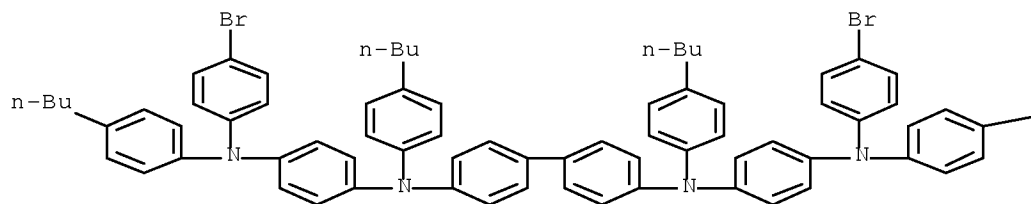
RN 807374-75-0 CAPLUS

CN [1,1'-Biphenyl]-4,4'-diamine, N,N'-bis[4-[(4-bromophenyl)(4-butylphenyl)amino]phenyl]-N,N'-bis(4-butylphenyl)-, polymer with 2,2'-[2',3',6',7'-tetrakis(3-methylbutoxy)-9,9'-spirobi[9H-fluorene]-2,7-diyl]bis[1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 807374-74-9

CMF C76 H76 Br2 N4



PAGE 1-A

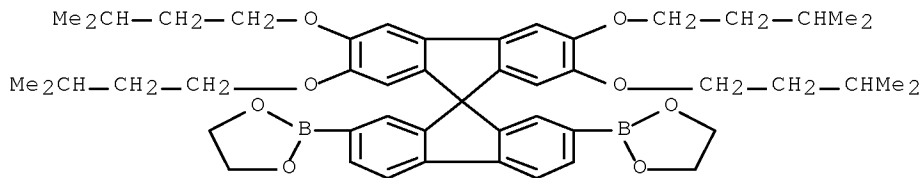
PAGE 1-B

n-Bu

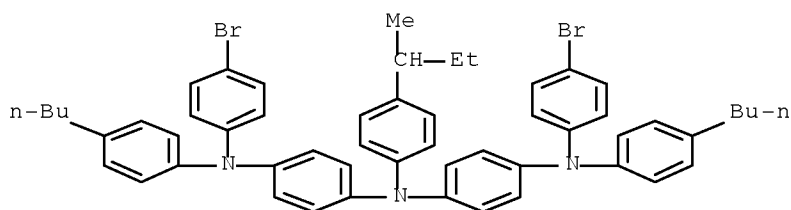
CM 2

CRN 807374-60-3

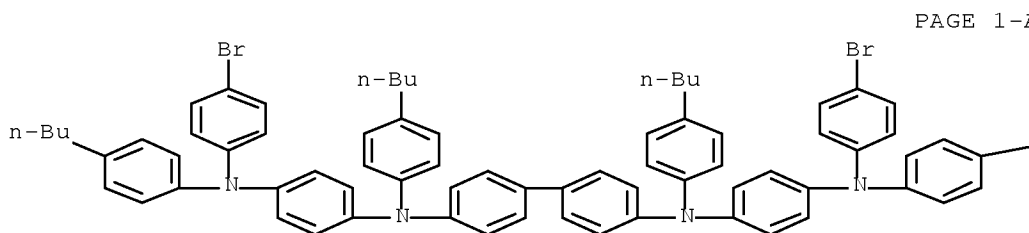
CMF C49 H62 B2 O8



IT 807374-46-5P 807374-74-9P 807374-98-7P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (monomer; manufacture of solution-processable semiconductive polymers with  
 improved hole transporting properties and their use)  
 RN 807374-46-5 CAPLUS  
 CN 1,4-Benzenediamine, N1-(4-bromophenyl)-N4-[4-[(4-bromophenyl)(4-  
 butylphenyl)amino]phenyl]-N1-(4-butylphenyl)-N4-[4-(1-methylpropyl)phenyl]-  
 (CA INDEX NAME)



RN 807374-74-9 CAPLUS  
 CN [1,1'-Biphenyl]-4,4'-diamine, N4,N4'-bis[4-[(4-bromophenyl)(4-  
 butylphenyl)amino]phenyl]-N4,N4'-bis(4-butylphenyl)- (CA INDEX NAME)

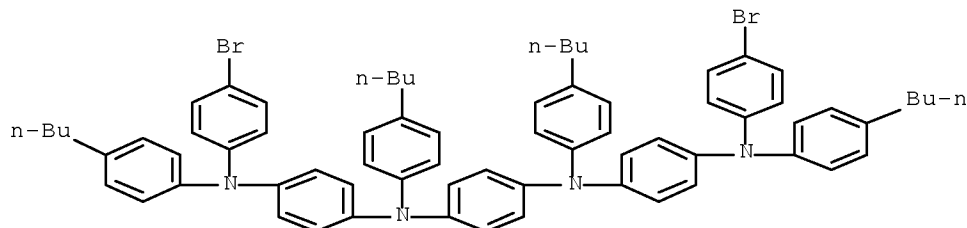


PAGE 1-A

PAGE 1-B

—Bu-n

RN 807374-98-7 CAPLUS  
 CN 1,4-Benzenediamine, N1,N4-bis[4-[(4-bromophenyl)(4-butylphenyl)amino]phenyl]-N1,N4-bis(4-butylphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)  
 REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2003:6031 CAPLUS Full-text

DOCUMENT NUMBER: 138:56847

TITLE: Preparation of polymer containing substituted triphenylamine units for optical devices

INVENTOR(S): Towns, Carl; O'dell, Richard

PATENT ASSIGNEE(S): Cambridge Display Technology Limited, UK

SOURCE: PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

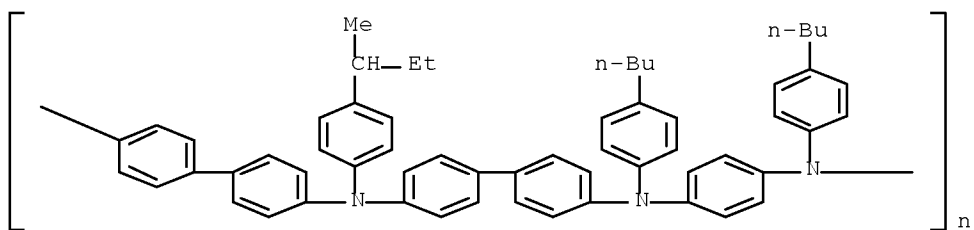
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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WO 2003000773	A1	20030103	WO 2002-GB2803	20020620
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
AU 2002314316	A1	20030108	AU 2002-314316	20020620
EP 1397416	A1	20040317	EP 2002-740886	20020620
EP 1397416	B1	20091014		
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
JP 2004532348	T	20041021	JP 2003-507173	20020620
AT 445661	T	20091015	AT 2002-740886	20020620
US 20040254324	A1	20041216	US 2004-481439	20040517
US 7351788	B2	20080401		

CN Poly[[4-(4-butylphenyl)imino]-1,4-phenylene[(4-butylphenyl)imino][1,1'-biphenyl]-4,4'-diyl[[4-(1-methylpropyl)phenyl]imino][1,1'-biphenyl]-4,4'-diyl] (9CI) (CA INDEX NAME)



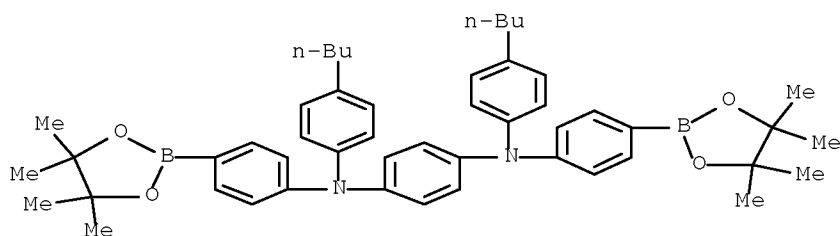
RN 479517-43-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-, polymer with N,N'-bis(4-butylphenyl)-N,N'-bis[4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl]-1,4-benzenediamine (9CI) (CA INDEX NAME)

CM 1

CRN 479517-42-5

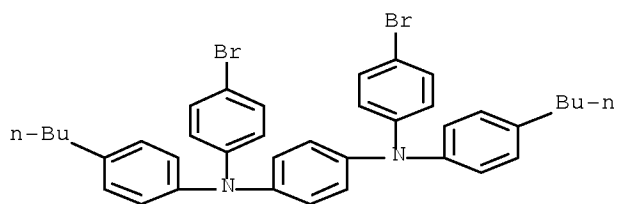
CMF C50 H62 B2 N2 O4



CM 2

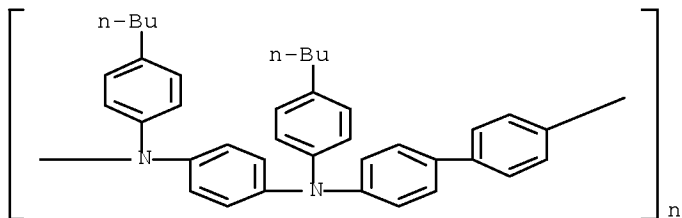
CRN 372200-89-0

CMF C38 H38 Br2 N2



RN 479517-48-1 CAPLUS

CN Poly[[ (4-butylphenyl)imino]-1,4-phenylene[ (4-butylphenyl)imino][1,1'-biphenyl]-4,4'-diyl] (CA INDEX NAME)

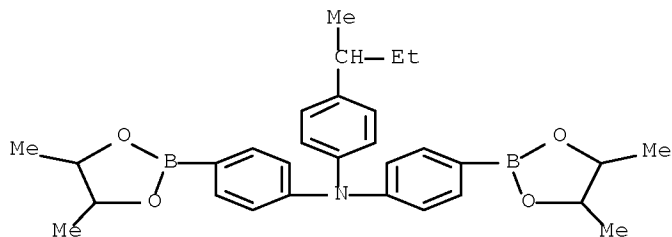


IT 479517-28-7DP, reaction products with bromobenzene and glycol  
benzeneboronate  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
use); PREP (Preparation); USES (Uses)  
(starting materials; preparation of polymer containing substituted  
triphenylamine units for optical devices)  
RN 479517-28-7 CAPLUS  
CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-butylphenyl)-,  
polymer with N,N-bis[4-(4,5-dimethyl-1,3,2-dioxaborolan-2-yl)phenyl]-4-(1-  
methylpropyl)benzenamine (9CI) (CA INDEX NAME)

CM 1

CRN 479517-27-6

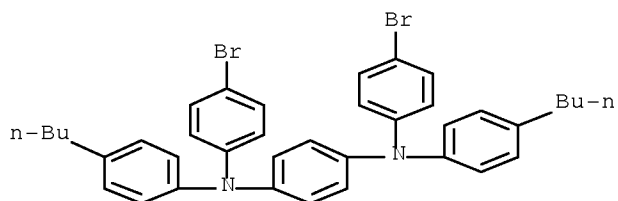
CMF C30 H37 B2 N O4



CM 2

CRN 372200-89-0

CMF C38 H38 Br2 N2



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
(3 CITINGS)  
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

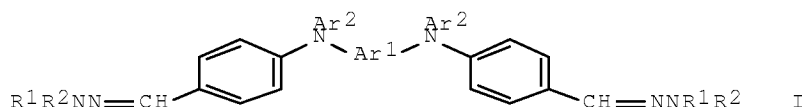
This file contains CAS Registry Numbers for easy and accurate  
substance identification.

=> d ibib L5 abs hitstr 430-440

L5 ANSWER 430 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 1996:733519 CAPLUS Full-text  
DOCUMENT NUMBER: 125:343202  
ORIGINAL REFERENCE NO.: 125:63865a,63868a  
TITLE: Organic electric-field electroluminescent  
device with hydrazone compound  
INVENTOR(S): Kawarasaki, Morihiro; Fujii, Ichiro; Enomoto, Kazuhiro  
PATENT ASSIGNEE(S): Sharp Kk, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 08231950	A	19960910	JP 1995-40905	19950228
PRIORITY APPLN. INFO.:			JP 1995-40905	19950228
OTHER SOURCE(S):	MARPAT	125:343202		

GI



AB The device contains (A) an anode successively coated with (B) a phosphor-containing ~~electroluminescent~~ layer, (C) a hole-transfer layer with a hydrazone compound I [Ar1 = C6-12 arylene; Ar2 = C6-12 (substituted) aryl, (substituted) aralkyl, C1-4 alkyl, allyl; R1-2 = C6-12 (substituted) aryl, C1-4 alkyl, (substituted) aralkyl, heterocyclic], and (D) a cathode. The device with the hydrazone compound shows no crystallinity change by heating and long service life.

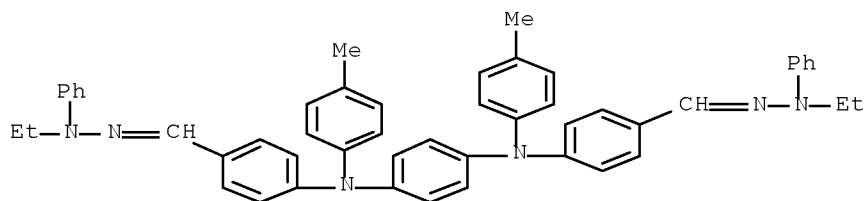
IT 183944-55-0 183944-57-2 183944-61-8  
183944-63-0 183944-64-1 183944-65-2  
183944-67-4 183944-69-6

RL: TEM (Technical or engineered material use); USES (Uses)  
(organic elec.-field ~~electroluminescent~~ device containing  
hole-transfer layer with hydrazone)

RN 183944-55-0 CAPLUS

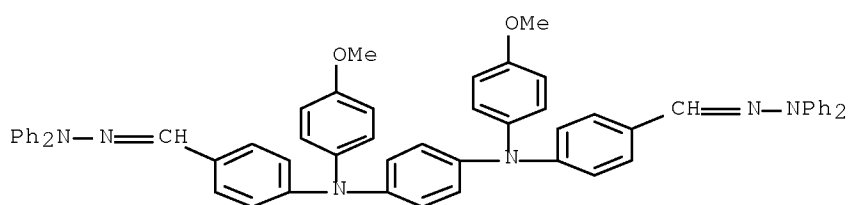
CN Benzaldehyde, 4,4'-[1,4-phenylenebis[(4-methylphenyl)imino]]bis-,  
bis(ethylphenylhydrazone) (9CI) (CA INDEX NAME)





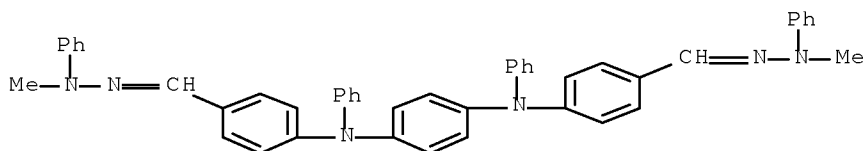
RN 183944-57-2 CAPLUS

CN Benzaldehyde, 4,4'-[1,4-phenylenebis[(4-methoxyphenyl)imino]]bis-,  
bis(diphenylhydrazone) (9CI) (CA INDEX NAME)



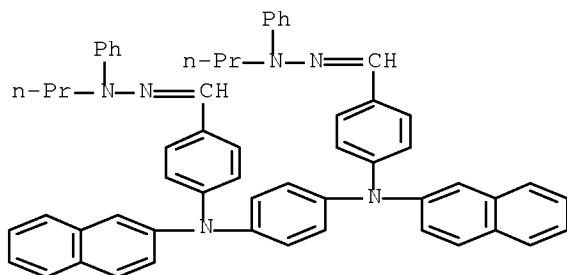
RN 183944-61-8 CAPLUS

CN Benzaldehyde, 4,4'-[1,4-phenylenebis(phenylimino)]bis-,  
bis(methylphenylhydrazone) (9CI) (CA INDEX NAME)

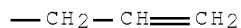
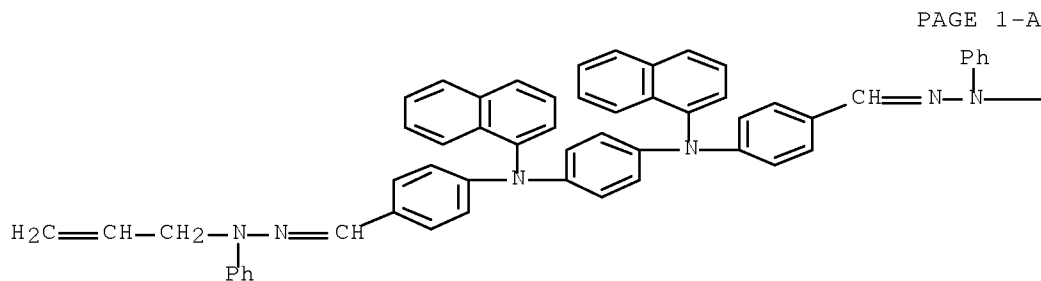


RN 183944-63-0 CAPLUS

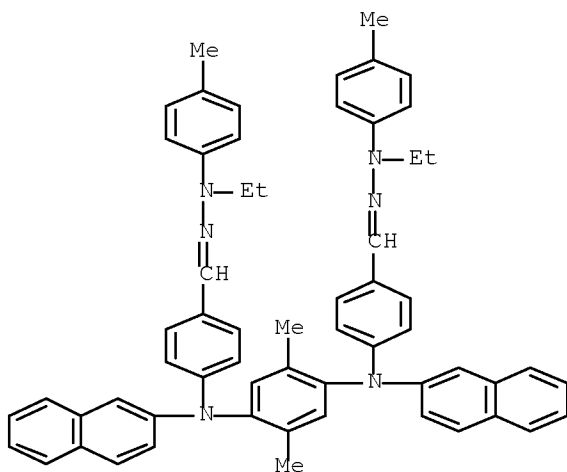
CN Benzaldehyde, 4,4'-[1,4-phenylenebis(2-naphthalenylimino)]bis-,  
bis(phenylpropylhydrazone) (9CI) (CA INDEX NAME)



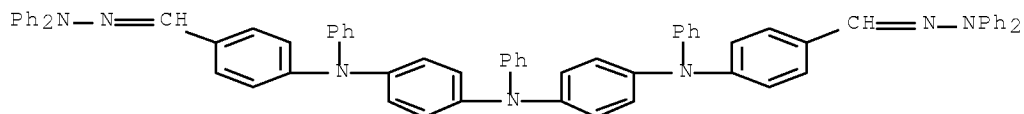
RN 183944-64-1 CAPLUS  
 CN Benzaldehyde, 4,4'-[1,4-phenylenebis(1-naphthalenylimino)]bis-,  
 bis(phenyl-2-propenylhydrazone) (9CI) (CA INDEX NAME)



RN 183944-65-2 CAPLUS  
 CN Benzaldehyde, 4,4'-[(2,5-dimethyl-1,4-phenylene)bis(2-naphthalenylimino)]bis-, bis[ethyl(4-methylphenyl)hydrazone] (9CI) (CA INDEX NAME)

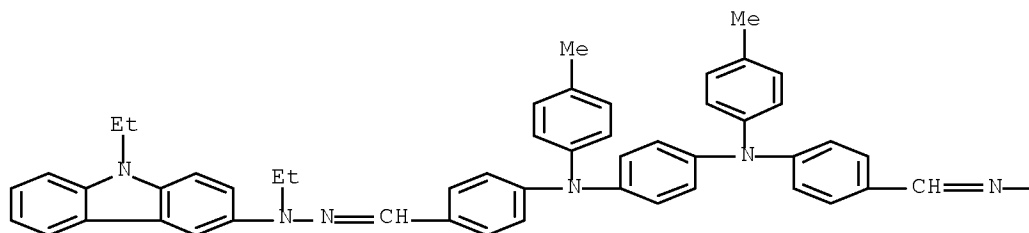


RN 183944-67-4 CAPLUS  
 CN Benzaldehyde, 4,4'-[(phenylimino)bis[4,1-phenylene(phenylimino)]]bis-,  
 bis(diphenylhydrazone) (9CI) (CA INDEX NAME)

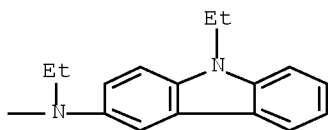


RN 183944-69-6 CAPLUS  
 CN Benzaldehyde, 4,4'-[1,4-phenylenebis[(4-methylphenyl)imino]]bis-,  
 bis[ethyl(9-ethyl-9H-carbazol-3-yl)hydrazone] (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L5 ANSWER 431 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1996:612438 CAPLUS Full-text  
 DOCUMENT NUMBER: 125:234385  
 ORIGINAL REFERENCE NO.: 125:43563a,43566a  
 TITLE: Positive hole-transporting material and usage thereof  
 INVENTOR(S): Enokida, Toshio; Tamano, Michiko; Onikubo, Shunichi  
 PATENT ASSIGNEE(S): Toyo Ink Mfg Co, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08179526	A	19960712	JP 1994-319695	19941222

GI For diagram(s), see printed CA Issue.

AB The material has the general formula ABA [A = diamine derivative residue I ; R1-9= H, halo, (substituted) alkyl, (substituted) alkoxy, (substituted) thioalkoxy, cyano, (mono- or di-substituted) amino, OH, SH, (substituted) aryloxy, (substituted) arylthio, (substituted) aromatic ring, (substituted) heterocycle;  $\geq 1$  of each of R1-3, R4-6, and R7-9 is not H and the adjacent groups may form alicyclic, carbocyclic aromatic, or heterocyclic aromatic rings which may be substituted; X = divalent aromatic ring residue; B = alicyclic residue II ; Y = (substituted) alkyl; n = 2-7; m = 0-2n]. Organic electroluminescent devices comprising  $\geq 1$  organic compound thin film luminescent layers  $\geq 1$  of which contains the material, and electrophotog. photoreceptors containing a charge-generating agent and the material are also claimed. The material shows good pos. hole-transporting properties and high quality electroluminescent devices and photoreceptors are obtained by using it. Thus, III was used typically for the material, which was prepared by reacting cyclohexanone with 9,10-bis(4-butylphenylphenylamino)phenanthrene.

IT 181796-78-1 181796-81-6

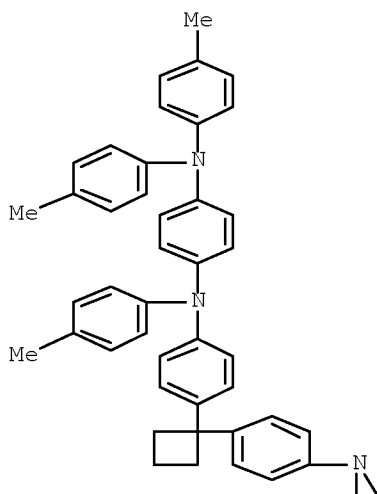
RL: DEV (Device component use); USES (Uses)

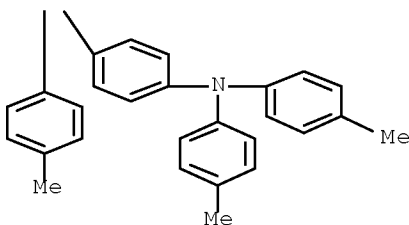
(pos. hole transporting agent for electrophotog. photoreceptor and electroluminescent device)

RN 181796-78-1 CAPLUS

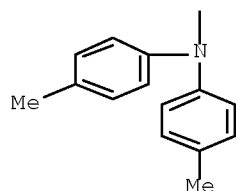
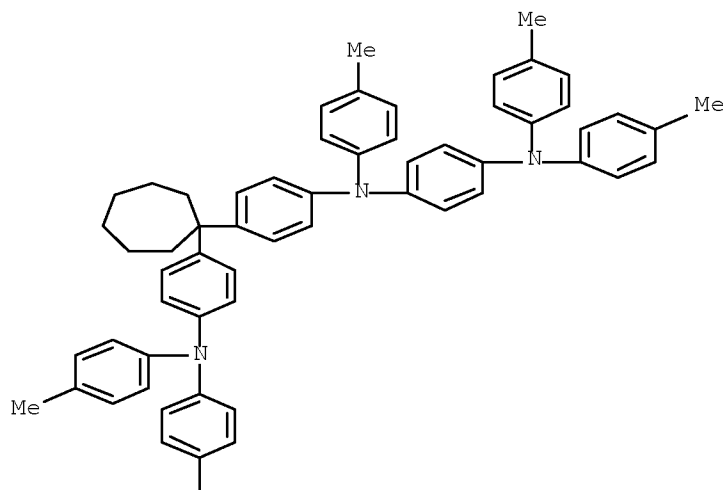
CN 1,4-Benzenediamine, N,N''-(cyclobutylidenedi-4,1-phenylene)bis[N,N',N''-tris(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A





RN 181796-81-6 CAPLUS  
 CN 1,4-Benzenediamine, N,N'-(cycloheptylidenedi-4,1-phenylene)bis[N,N',N'-tris(4-methylphenyl)- (9CI) (CA INDEX NAME)]

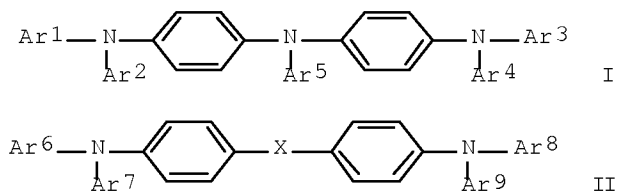


L5 ANSWER 432 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1996:580231 CAPLUS Full-text  
 DOCUMENT NUMBER: 125:234547  
 ORIGINAL REFERENCE NO.: 125:43591a  
 TITLE: Organic electroluminescent element, organic

thin film, and triamine compounds  
 INVENTOR(S): Kawamura, Hisayuki; Nakamura, Hiroaki; Hosokawa, Chishio  
 PATENT ASSIGNEE(S): Idemitsu Kosan Co., Ltd., Japan  
 SOURCE: PCT Int. Appl., 94 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9622273	A1	19960725	WO 1996-JP82	19960119
W: CN, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 08193191	A	19960730	JP 1995-6254	19950119
JP 3306735	B2	20020724		
JP 09095470	A	19970408	JP 1995-252979	19950929
JP 3139528	B2	20010305		
EP 805143	A1	19971105	EP 1996-900715	19960119
EP 805143	B1	20011205		
R: BE, CH, DE, FR, GB, IT, LI, NL, SE				
CN 1168132	A	19971217	CN 1996-191527	19960119
CN 1152607	C	20040602		
US 6074734	A	20000613	US 1997-860927	19970721
PRIORITY APPLN. INFO.:			JP 1995-6254	A 19950119
			JP 1995-252979	A 19950929
			WO 1996-JP82	W 19960119

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT  
 GI



AB Triamine compds. are represented by general formula I (Ar1-5 = C6-18 aryl). An organic ~~electroluminescent~~ element comprises a pair of electrodes and, sandwiched therebetween, an organic compound layer containing at least a luminescent band layer and a hole transport band layer comprising a hole injection layer containing the triamine compound and a hole transport layer; and a two-layered organic thin film comprising a layer that contains I and has a thickness of 5 nm to 5 μm and another layer that contains a compound II (X = methylene, phenylene, biphenylene, O, S; Ar6-10 = C6-18 aryl) and has a thickness of 5 nm to 5 μm. The invention provides an organic ~~electroluminescent~~ element reduced in the risk of causing dielec. breakdown even when stored for long and remarkably enhanced in ~~electroluminescence~~ efficiency, a long-lived organic ~~electroluminescent~~ element excellent in the stability of ~~electroluminescence~~ even when continuously driven for long, and

an organic thin film excellent in hole injection and transport characteristics.

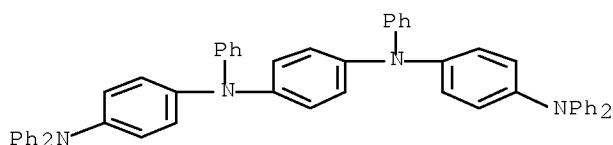
IT 141546-10-3 181367-10-2 181367-42-0

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(triamine compound thin film for electroluminescent element)

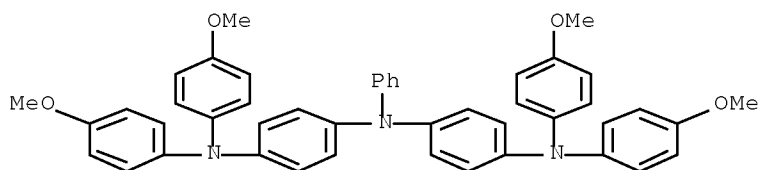
RN 141546-10-3 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-(diphenylamino)phenyl]-N1,N4-diphenyl-  
(CA INDEX NAME)



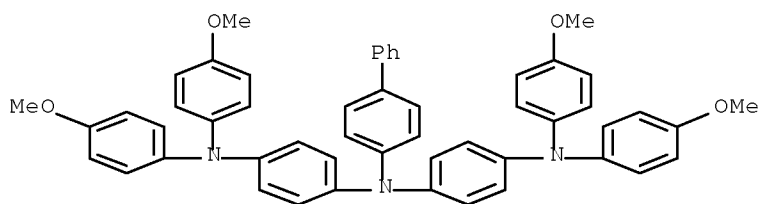
RN 181367-10-2 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[bis(4-methoxyphenyl)amino]phenyl]-N4,N4-bis(4-methoxyphenyl)-N1-phenyl- (CA INDEX NAME)



RN 181367-42-0 CAPLUS

CN 1,4-Benzenediamine, N1-[1,1'-biphenyl]-4-yl-N1-[4-[bis(4-methoxyphenyl)amino]phenyl]-N4,N4-bis(4-methoxyphenyl)- (CA INDEX NAME)



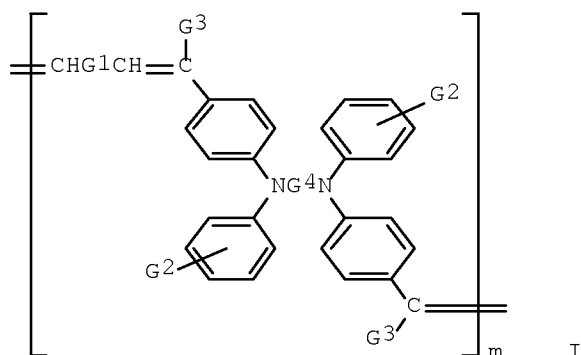
OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS RECORD (15 CITINGS)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 433 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 1996:560311 CAPLUS Full-text  
DOCUMENT NUMBER: 125:196755

ORIGINAL REFERENCE NO.: 125:36861a,36864a  
 TITLE: Polymeric carrier-transporting materials for electroluminescent devices, electrophotographic photoreceptors, etc.  
 INVENTOR(S): Ito, Juichi; Sato, Hisaya; Hayashi, Takako  
 PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08157575	A	19960618	JP 1994-330622	19941207
JP 3482719	B2	20040106		
PRIORITY APPLN. INFO.: GI			JP 1994-330622	19941207



AB The title materials capable of forming carrier-transporting layers by spin coating or casting with  $T_g \geq 120^\circ$  and good mech. strength have the general formula I [ $m = \text{d.p.}$ ;  $G1 = \text{direct bond, arylene, alkylene, alkylenedioxy, other linking group}$ ;  $G2 = (\text{halo})\text{alkyl}$ ;  $G3 = \text{H, alkyl}$ ;  $G4 = \text{phenylene, biphenylene, other linking group}$ ].  $N,N'$ -bis(4-formylphenyl)- $N,N'$ -di-*p*-tolyl-*p*-phenylenediamine was prepared and polymerized with *m*-xylylbis(triphenylphosphonium chloride).

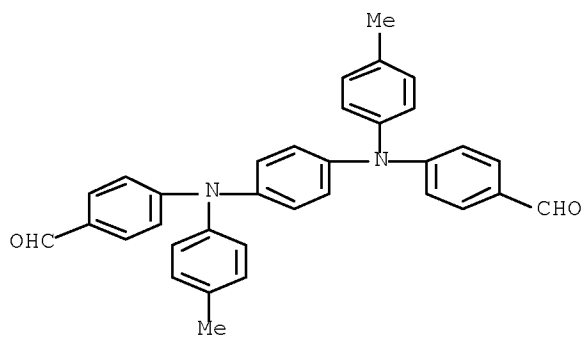
IT 181064-89-1P 181064-90-4P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polymeric carrier-transporting materials for electroluminescent devices and electrophotog. photoreceptors)

RN 181064-89-1 CAPLUS

CN Phosphonium, [1,3-phenylenebis(methylene)]bis(triphenyl-, dichloride, polymer with 4,4'-[1,4-phenylenebis[(4-methylphenyl)imino]]bis[benzaldehyde] (9CI) (CA INDEX NAME)

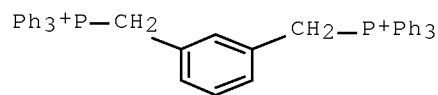


CRN 131660-39-4  
 CMF C34 H28 N2 O2



CM 2

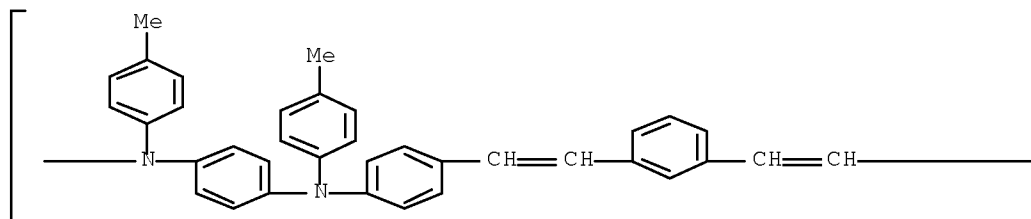
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 CMF C44 H38 P2 . 2 Cl

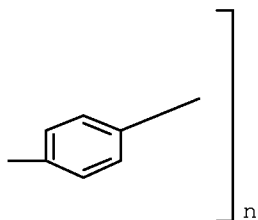


● 2 Cl-

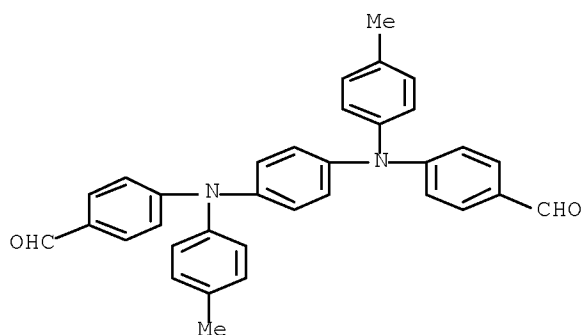
RN 181064-90-4 CAPLUS  
 CN Poly[[ (4-methylphenyl) imino]-1,4-phenylene[ (4-methylphenyl) imino]-1,4-phenylene-1,2-ethenediyl-1,3-phenylene-1,2-ethenediyl-1,4-phenylene] (9CI)  
 (CA INDEX NAME)

PAGE 1-A

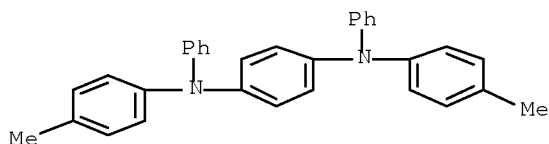




IT 131660-39-4P 138171-14-9P  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (polymeric carrier-transporting materials for  
 electroluminescent devices and electrophotog. photoreceptors)  
 RN 131660-39-4 CAPLUS  
 CN Benzaldehyde, 4,4'-[1,4-phenylenebis[(4-methylphenyl)imino]]bis- (CA  
 INDEX NAME)



RN 138171-14-9 CAPLUS  
 CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX  
 NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
 (2 CITINGS)

L5 ANSWER 434 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1996:462259 CAPLUS Full-text  
 DOCUMENT NUMBER: 125:127324

ORIGINAL REFERENCE NO.: 125:23605a,23608a  
 TITLE: Organic thin-film ~~electroluminescent~~ device  
 INVENTOR(S): Utsuki, Koji; Hirano, Akira; Tsuruoka, Eriko; Ikeda, Naoyasu  
 PATENT ASSIGNEE(S): Nippon Electric Co, Japan; Samsung Sdi Co., Ltd.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08109373	A	19960430	JP 1994-247930	19941013
JP 3758694	B2	20060322		
US 5858562	A	19990112	US 1995-542624	19951013

PRIORITY APPLN. INFO.: JP 1994-247930 A 19941013

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 125:127324

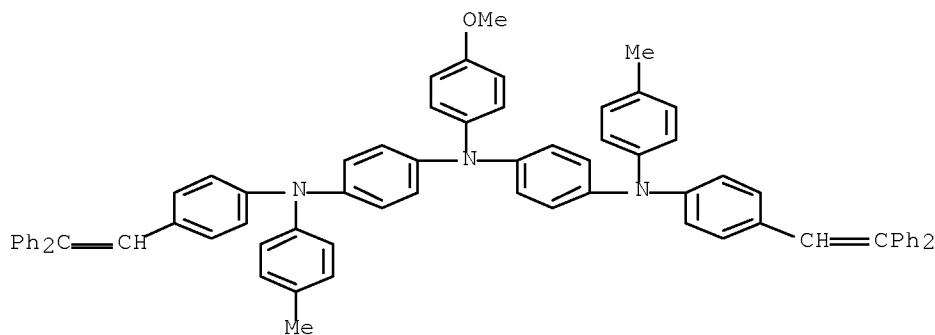
AB An organic thin-film ~~electroluminescent~~ device comprising a hole transporting region sandwiched between a pair of electrodes, the hole transporting region consisting of a hole injecting layer and/or a hole transporting layer in contact with the anode, and a current blocking layer in contact with the light emitting layer, wherein the hole transporting layer comprises bistriphenylaminestyryl derivs. represented by (XAr1)(Ar2)NAr3AAr4N(Ar5Y)(Ar6) [A = C1-10 alkylidene, cycloalkylidene, O, S, or amino; Ar1, Ar3, Ar4, Ar5 = arylene; Ar2, Ar6 = aryl; X, Y = R1C:C(Ar7)(Ar8) (Ar7, Ar8 = aryl; R1 = H, halo, OH, amino, C1-6 alkyl)].

IT 152268-53-6 152268-54-7 152268-56-9  
 152268-57-0 152268-58-1 152268-59-2  
 152268-60-5 152268-61-6 152268-62-7  
 152268-63-8 152268-64-9 152268-65-0  
 179167-65-8 179167-66-9

RL: DEV (Device component use); USES (Uses)  
 (hole transporting layer for organic thin layer ~~electroluminescent~~ device)

RN 152268-53-6 CAPLUS

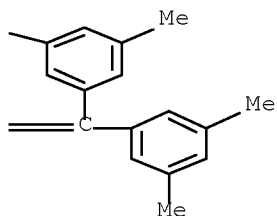
CN 1,4-Benzenediamine, N1-[4-(2,2-diphenylethenyl)phenyl]-N4-[4-[[4-(2,2-diphenylethenyl)phenyl](4-methylphenyl)amino]phenyl]-N4-(4-methoxyphenyl)-N1-(4-methylphenyl)- (CA INDEX NAME)



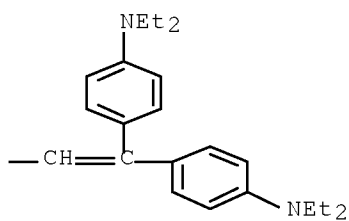
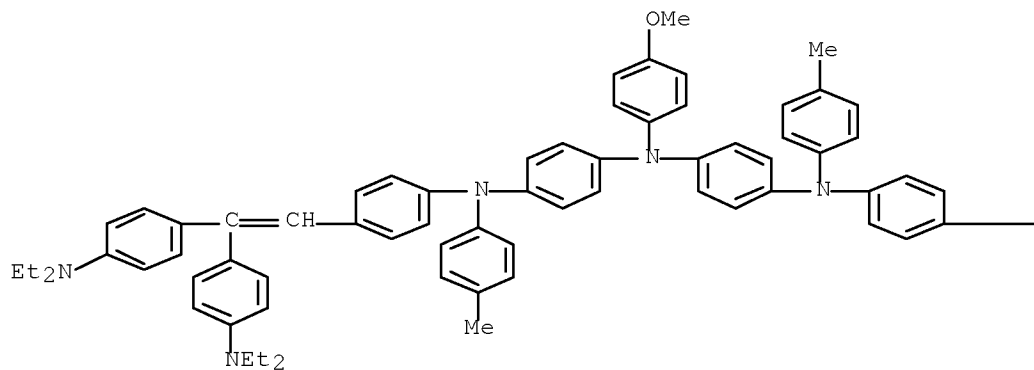
RN 152268-54-7 CAPLUS

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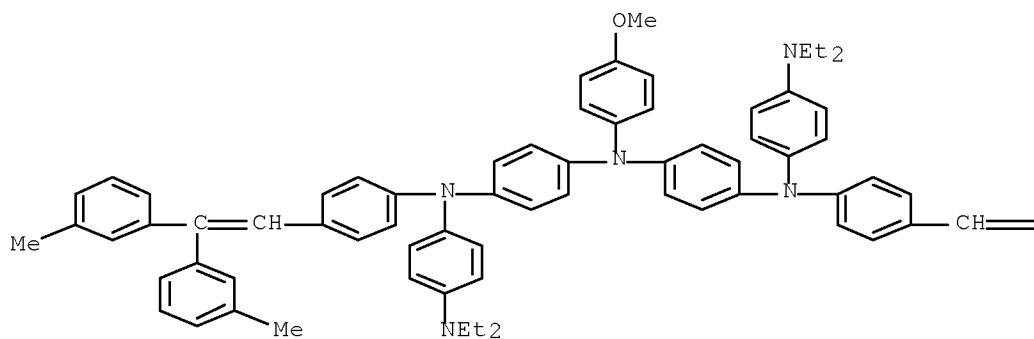
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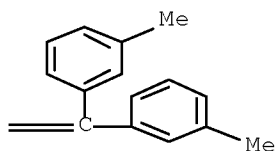


CN 1,4-Benzenediamine, N1-[4-[2,2-bis[4-(diethylamino)phenyl]ethenyl]phenyl]-  
N4-[4-[[4-[2,2-bis[4-(diethylamino)phenyl]ethenyl]phenyl](4-  
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INDEX NAME)



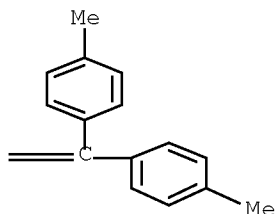
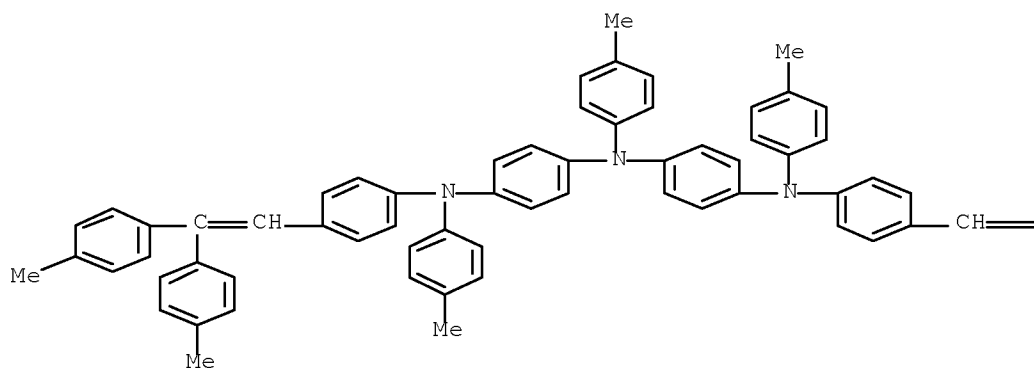
RN 152268-57-0 CAPLUS  
 CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl]-N4-[4-  
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 (diethylamino)phenyl]amino]phenyl]-N1-[4-(diethylamino)phenyl]-N4-(4-  
 methoxyphenyl)- (CA INDEX NAME)





RN 152268-58-1 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N4-[4-  
[[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-  
N1,N4-bis(4-methylphenyl)- (CA INDEX NAME)

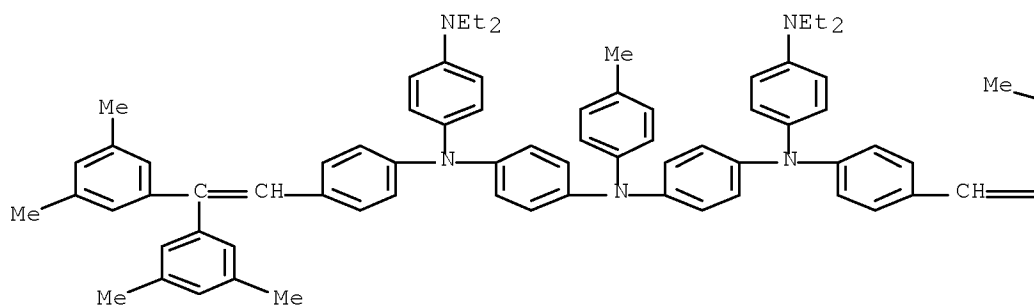


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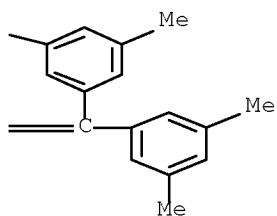
CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl]-N4-[4-  
[[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl][4-

(diethylamino)phenyl]amino]phenyl]-N1-[4-(diethylamino)phenyl]-N4-(4-methylphenyl)- (CA INDEX NAME)

PAGE 1-A



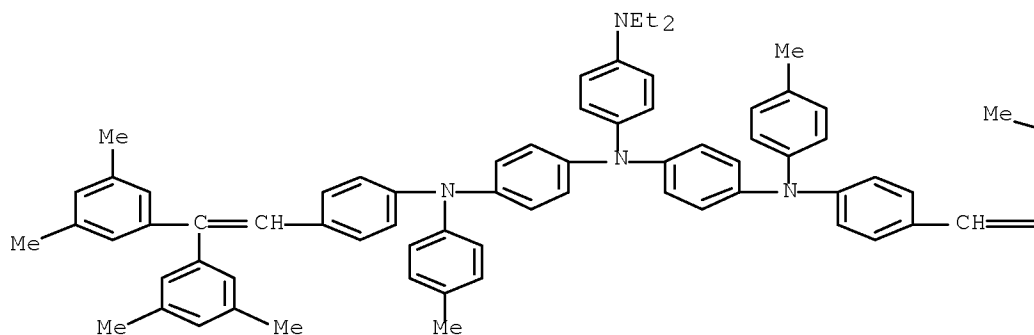
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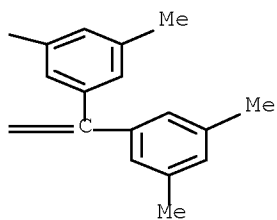


RN 152268-60-5 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl]-N4-[4-[4-[2,2-bis(3,5-dimethylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-N4-[4-(diethylamino)phenyl]-N1-(4-methylphenyl)- (CA INDEX NAME)

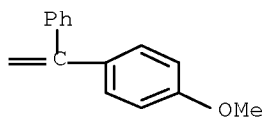
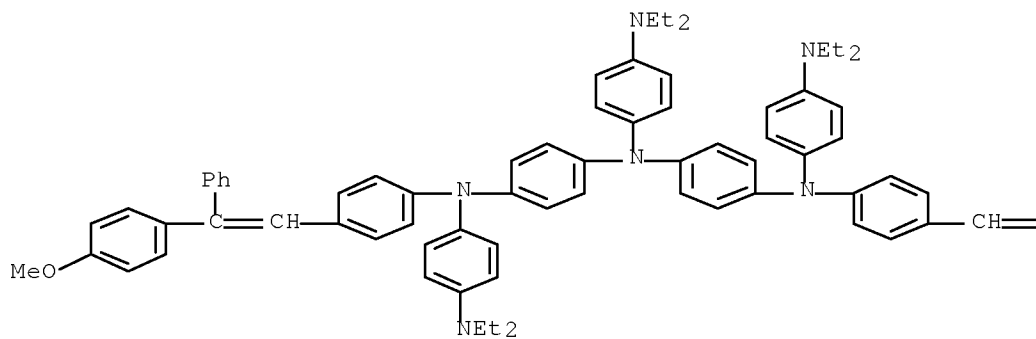
PAGE 1-A






RN 152268-61-6 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-(diethylamino)phenyl]-N1-[4-[[4-(diethylamino)phenyl][4-[2-(4-methoxyphenyl)-2-phenylethenyl]phenyl]amino]phenyl]-N4-[4-[2-(4-methoxyphenyl)-2-phenylethenyl]phenyl]- (CA INDEX NAME)





CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl]-N4-[4-  
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N4-[4-(diethylamino)phenyl]-N1-(4-methylphenyl)- (CA INDEX NAME)

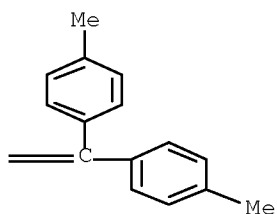
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Chemical structure of 1,3-bis(3-methylphenyl)allene, showing two 3-methylphenyl groups connected by an allene moiety.

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N4-[4-  
[[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-  
N4-(3-methylphenyl)-N1-(4-methylphenyl)- (CA INDEX NAME)

Cc1ccc(cc1)C(=C)c2ccc(cc2)N(c3ccc(cc3)C)N(c4ccc(cc4)N(c5ccc(cc5)C)N(c6ccc(cc6)C)C=C)c7ccc(cc7)C

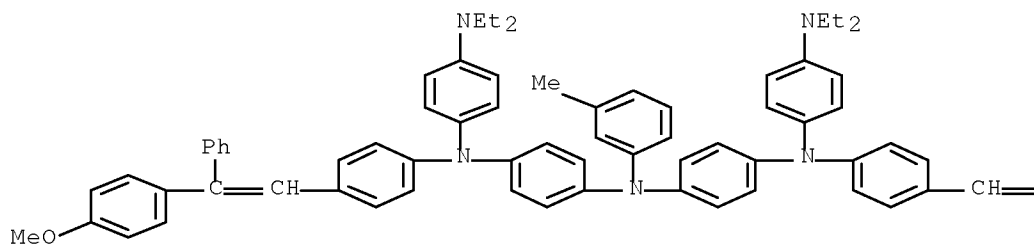
PAGE 1-B



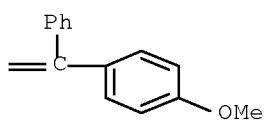
RN 152268-64-9 CAPLUS

CN 1,4-Benzenediamine, N1-[4-(diethylamino)phenyl]-N4-[4-[[4-(diethylamino)phenyl][4-[2-(4-methoxyphenyl)-2-phenylethenyl]phenyl]amino]phenyl]-N1-[4-[2-(4-methoxyphenyl)-2-phenylethenyl]phenyl]-N4-(3-methylphenyl)- (CA INDEX NAME)

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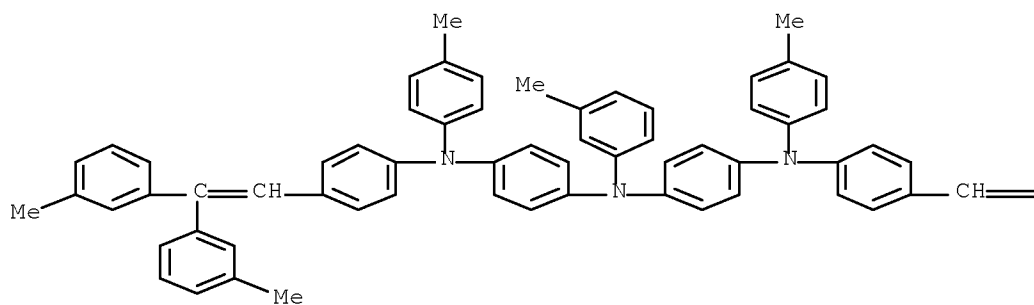
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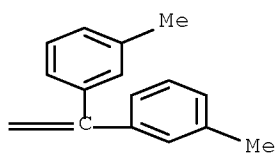
RN 152268-65-0 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl]-N4-[4-[[4-[2,2-bis(3-methylphenyl)ethenyl]phenyl](4-methylphenyl)amino]phenyl]-N4-(3-methylphenyl)-N1-(4-methylphenyl)- (CA INDEX NAME)

PAGE 1-A

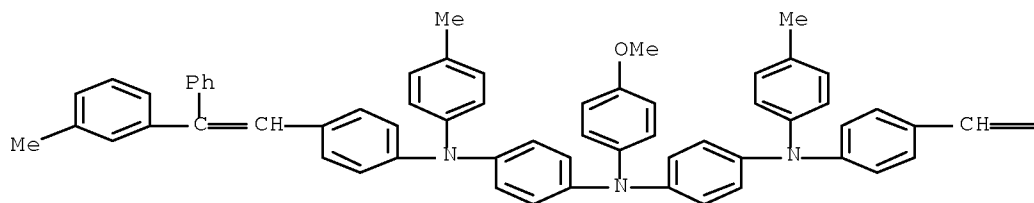


PAGE 1-B

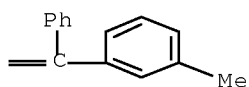


RN 179167-65-8 CAPLUS  
 CN 1,4-Benzenediamine, N1-(4-methoxyphenyl)-N4-(4-methylphenyl)-N1-[4-[(4-methylphenyl)[4-[2-(3-methylphenyl)-2-phenylethenyl]phenyl]amino]phenyl]-N4-[4-[2-(3-methylphenyl)-2-phenylethenyl]phenyl]- (CA INDEX NAME)

PAGE 1-A

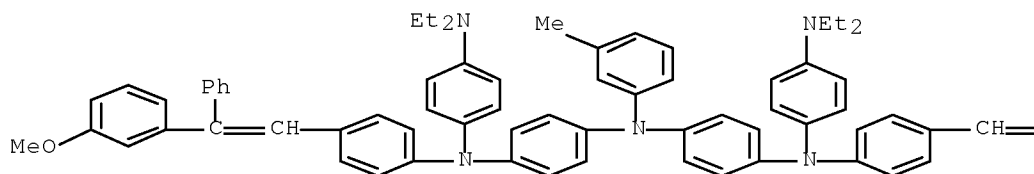


PAGE 1-B

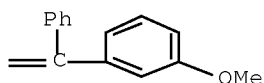


RN 179167-66-9 CAPLUS  
 CN 1,4-Benzenediamine, N1-[4-(diethylamino)phenyl]-N4-[4-[[4-(diethylamino)phenyl][4-[2-(3-methoxyphenyl)-2-phenylethenyl]phenyl]amino]phenyl]-N1-[4-[2-(3-methoxyphenyl)-2-phenylethenyl]phenyl]-N4-(3-methylphenyl)- (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD  
 (3 CITINGS)

L5 ANSWER 435 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1996:294601 CAPLUS Full-text

DOCUMENT NUMBER: 124:328419

ORIGINAL REFERENCE NO.: 124:60655a,60658a

TITLE: Hole-transporting material for organic  
 electroluminescence device or  
 electrophotographic photoreceptor

INVENTOR(S): Tamano, Michiko; Onikubo, Toshikazu; Uemura,  
 Toshikyuki; Ogawa, Tadashi; Enokida, Toshio

PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 34 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 699654	A1	19960306	EP 1995-305450	19950804
EP 699654	B1	19990331		
R: DE, FR, GB				
JP 08227165	A	19960903	JP 1995-164912	19950630
JP 3261930	B2	20020304		
JP 08100038	A	19960416	JP 1995-171739	19950707

JP 3296147 B2 20020624  
 US 5681664 A 19971028 US 1995-510535 19950802  
 PRIORITY APPLN. INFO.: JP 1994-183198 A 19940804  
 JP 1994-319694 A 19941222

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

AB A hole-transporting material of formula H-A-[-B-A-]<sub>n</sub>-B-A-H has excellent hole-transporting capability and excellent durability, wherein A is a specified aromatic amine derivative residue, B is a residue, and n is an integer of 1-5000. The materials may be included in an organic EL device of an electrophotog. photoreceptor which are excellent in stability in continuous long-term use.

IT 176443-47-3 176443-48-4 176443-77-9  
 176443-81-5

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(hole-transporting material for EL device or electrophotog. photoreceptor)

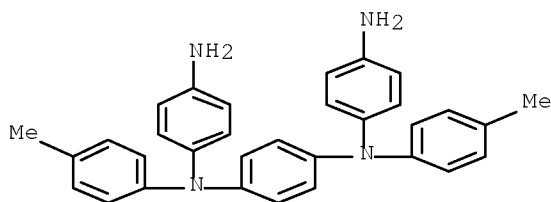
RN 176443-47-3 CAPLUS

CN Cyclopentanone, polymer with N,N'-bis(4-aminophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI) (CA INDEX NAME)

CM 1

CRN 176443-17-7

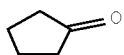
CMF C32 H30 N4



CM 2

CRN 120-92-3

CMF C5 H8 O



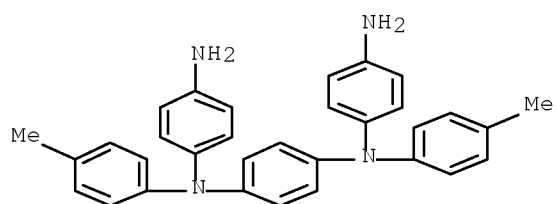
RN 176443-48-4 CAPLUS

CN Cyclooctanone, polymer with N,N'-bis(4-aminophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI) (CA INDEX NAME)

CM 1

CRN 176443-17-7

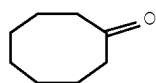
CMF C32 H30 N4



CM 2

CRN 502-49-8

CMF C8 H14 O



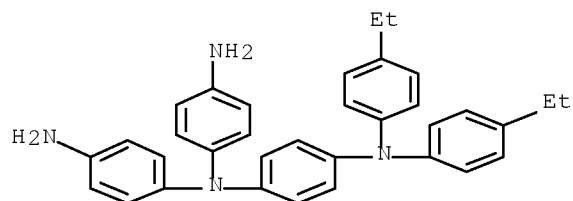
RN 176443-77-9 CAPLUS

CN Cyclohexanone, 3,3,5-trimethyl-, polymer with  
N,N-bis(4-aminophenyl)-N',N'-bis(4-ethylphenyl)-1,4-benzenediamine (9CI)  
(CA INDEX NAME)

CM 1

CRN 176443-76-8

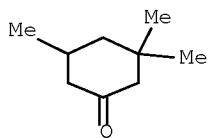
CMF C34 H34 N4



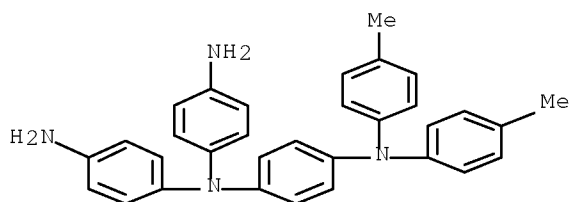
CM 2

CRN 873-94-9

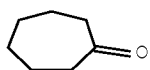
CMF C9 H16 O



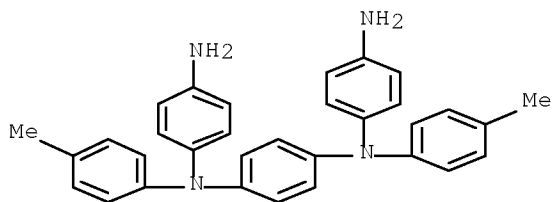
RN 176443-81-5 CAPLUS  
 CN Cycloheptanone, polymer with N,N-bis(4-aminophenyl)-N',N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 176443-80-4  
 CMF C32 H30 N4



CM 2  
 CRN 502-42-1  
 CMF C7 H12 O



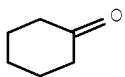
IT ~~176443-18-8P~~ ~~176443-19-9P~~  
 RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)  
 (prepared as hole-transporting material for EL device or electrophotog. photoreceptor)  
 RN 176443-18-8 CAPLUS  
 CN Cyclohexanone, polymer with N,N'-bis(4-aminophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 176443-17-7  
 CMF C32 H30 N4



CM 2

CRN 108-94-1

CMF C6 H10 O



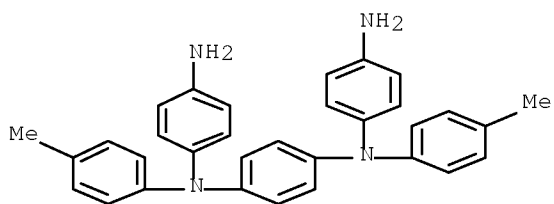
RN 176443-19-9 CAPLUS

CN Cyclohexanone, 4-methyl-, polymer with  
N,N'-bis(4-aminophenyl)-N,N'-bis(4-methylphenyl)-1,4-benzenediamine (9CI)  
(CA INDEX NAME)

CM 1

CRN 176443-17-7

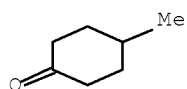
CMF C32 H30 N4



CM 2

CRN 589-92-4

CMF C7 H12 O





OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS  
RECORD (17 CITINGS)

L5 ANSWER 436 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 1995:562195 CAPLUS Full-text  
DOCUMENT NUMBER: 123:20922  
ORIGINAL REFERENCE NO.: 123:3811a,3814a  
TITLE: Molecular design of hole transport materials for  
obtaining high durability in organic  
~~electroluminescent~~ diodes  
AUTHOR(S): Adachi, Chihaya; Nagai, Kazukiyo; Tamoto, Nozomu  
CORPORATE SOURCE: Chemical Products R and D Center, Ricoh Co., Ltd.,  
Shizuoka, 410, Japan  
SOURCE: Applied Physics Letters (1995), 66(20), 2679-81  
CODEN: APPLAB; ISSN: 0003-6951  
PUBLISHER: American Institute of Physics  
DOCUMENT TYPE: Journal  
LANGUAGE: English

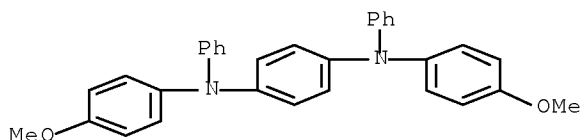
AB The mol. design of hole transport materials (HTMs) for producing high  
durability in organic layered ~~electroluminescent~~ (EL) diodes was elucidated.  
The durability tests were examined using 14 hole transport materials in the  
cell structure of an anode/hole transport layer (HTL)/emitter layer  
(EML)/cathode. The ionization potential (Ip) of HTLs is the dominant factor  
for obtaining high durability in organic EL devices. The formation of the  
small energy barrier at the interface of a HTL/anode was required for high  
durability. Also, no straightforward relations between m.p., glass transition  
temperature of the HTMs, and durability of the EL devices were observed The  
EL device using the HTM having a low Ip (5.08 eV) showed an especially  
remarkable stability. In this case, the half-life period of the initial  
luminance was beyond 500 h.

IT 124526-50-7 138171-14-9

RL: DEV (Device component use); USES (Uses)  
(hole transport material for obtaining high durability in organic  
~~electroluminescent~~ diodes)

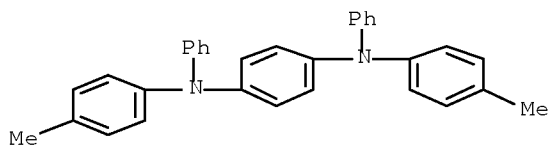
RN 124526-50-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX  
NAME)



RN 138171-14-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX  
NAME)

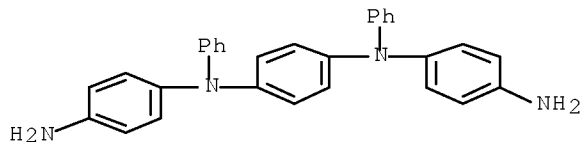


OS.CITING REF COUNT: 258 THERE ARE 258 CAPLUS RECORDS THAT CITE THIS RECORD (261 CITINGS)

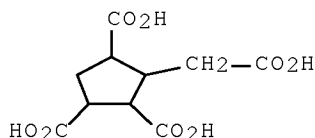
L5 ANSWER 437 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1995:561327 CAPLUS Full-text  
 DOCUMENT NUMBER: 122:302641  
 ORIGINAL REFERENCE NO.: 122:54869a,54872a  
 TITLE: Organic thin-film ~~electroluminescence~~ device  
 INVENTOR(S): Ito, Juichi  
 PATENT ASSIGNEE(S): Toppan Printing Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06338392	A	19941206	JP 1993-126717	19930528
JP 2848189	B2	19990120		

PRIORITY APPLN. INFO.: JP 1993-126717 19930528  
 AB The title device, wherein the hole injection/transport layer comprises a aliphatic tetracarboxylic anhydride-based polyimide.  
 IT 163185-95-3  
 RL: DEV (Device component use); USES (Uses)  
 (aliphatic tetracarboxylic anhydride hole injection/transport layer in ~~electroluminescent~~ devices)  
 RN 163185-95-3 CAPLUS  
 CN 1,2,4-Cyclopentanetricarboxylic acid, 3-(carboxymethyl)-, polymer with N,N'-bis(4-aminophenyl)-N,N'-diphenyl-1,4-benzenediamine (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 111341-76-5  
 CMF C30 H26 N4



CRN 24434-90-0  
CMF C10 H12 O8



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD  
(4 CITINGS)

L5 ANSWER 438 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 1994:545550 CAPLUS Full-text  
DOCUMENT NUMBER: 121:145550  
ORIGINAL REFERENCE NO.: 121:26101a,26104a  
TITLE: Organic thin-film electroluminescent element  
INVENTOR(S): Adachi, Chihaya; Oota, Masabumi; Sakon, Hirota;  
Takahashi, Toshihiko  
PATENT ASSIGNEE(S): Ricoh Kk, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
JP 05299174	A	19931112	JP 1992-126815	19920420

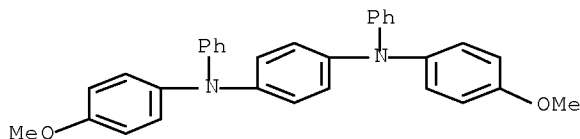
PRIORITY APPLN. INFO.: JP 1992-126815 19920420

AB In the title element comprising an anode, a cathode, and 1 or a plurality of organic compound layers sandwiched by the anode and cathode, the relative difference of the ionization potentials of the anode (preferably an ITO electrode) and an organic compound layer (may be organic hole transport layer, organic hole transport light-emitting layer, or a single light-emitting organic compound layer) in contact with the anode is <0.85 eV. The electroluminescent element shows high initial luminance-maintaining ratio and superior durability.

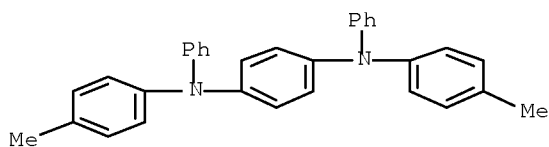
IT 124526-50-7 138171-14-9  
RL: USES (Uses)  
(organic thin-film electroluminescent element with hole transport layer of, ionization potential of)

RN 124526-50-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



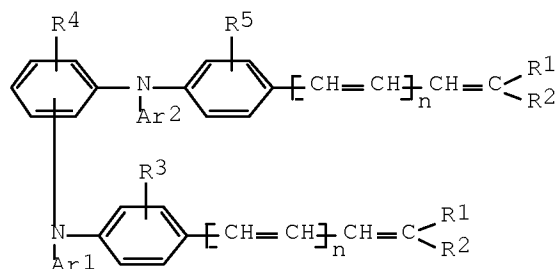
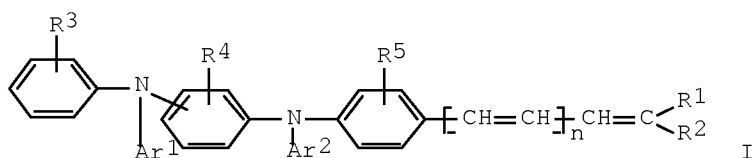
RN 138171-14-9 CAPLUS  
 CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



L5 ANSWER 439 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1994:496254 CAPLUS Full-text  
 DOCUMENT NUMBER: 121:96254  
 ORIGINAL REFERENCE NO.: 121:17071a,17074a  
 TITLE: Organic electroluminescence device  
 INVENTOR(S): Suzuki, Shinichi; Shibata, Toyoko; Takeuchi, Shigeki  
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 28 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06017046	A	19940125	JP 1992-173177	19920630
PRIORITY APPLN. INFO.:			JP 1992-173177	19920630
OTHER SOURCE(S):	MARPAT	121:96254		

GI



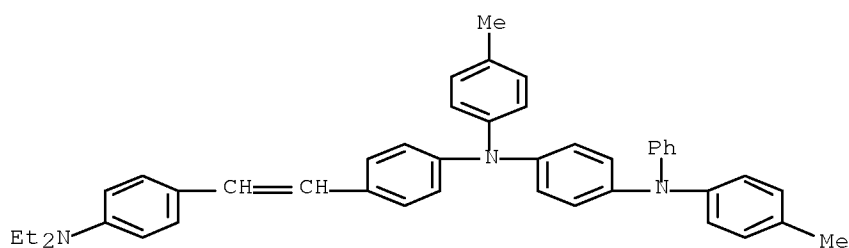
AB The title device, suited for use as a flat-panel display or a plane light source, comprises  $\geq 1$  layer containing I or II [R1, R3 = H, (substituted) alkyl, aryl, aralkyl, heterocyclyl, provided that R1 and R2 may not both be H, and R1 and R2 may together form a ring; R3, R4, R5 = H, halo, alkyl, alkoxy; Ar1, Ar2 = (substituted) alkyl, aryl, aralkyl; n = 0, 1].

IT 131312-31-7 131660-34-9 131660-38-3  
 156204-52-3 156204-58-9 156204-59-0  
 156204-60-3 156204-61-4 156204-62-5  
 156204-63-6

RL: DEV (Device component use); USES (Uses)  
 (electroluminescent device from)

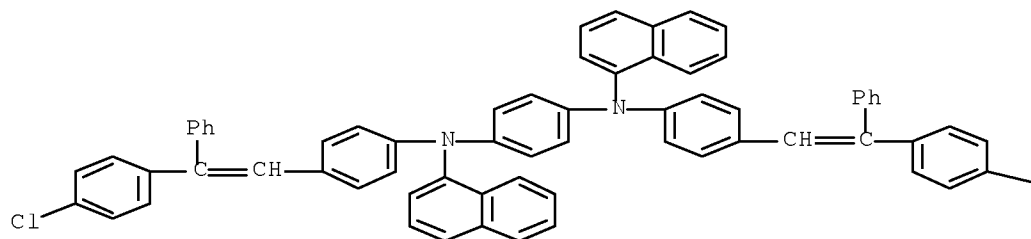
RN 131312-31-7 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[2-[4-(diethylamino)phenyl]ethenyl]phenyl]-N1,N4-bis(4-methylphenyl)-N4-phenyl- (CA INDEX NAME)



RN 131660-34-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-[2-(4-chlorophenyl)-2-phenylethenyl]phenyl]-N1,N4-di-1-naphthalenyl- (CA INDEX NAME)



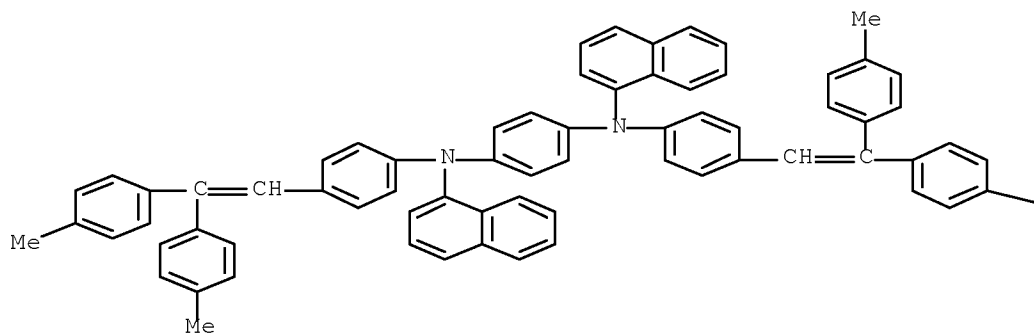
PAGE 1-A

PAGE 1-B

-Cl

RN 131660-38-3 CAPLUS  
 CN 1,4-Benzenediamine, N1,N4-bis[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-  
 N1,N4-di-1-naphthalenyl- (CA INDEX NAME)

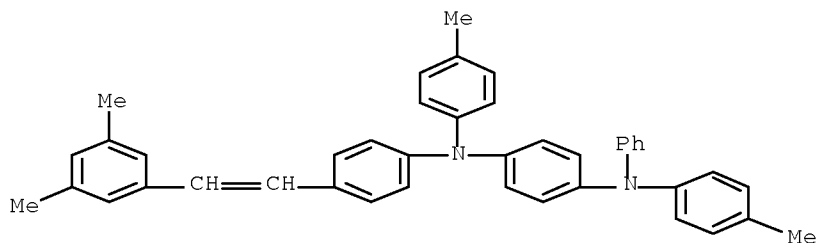
PAGE 1-A



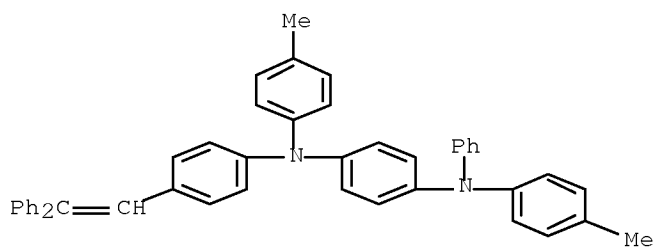
PAGE 1-B

Me

RN 156204-52-3 CAPLUS  
 CN 1,4-Benzenediamine, N1-[4-[2-(3,5-dimethylphenyl)ethenyl]phenyl]-N1,N4-  
 bis(4-methylphenyl)-N4-phenyl- (CA INDEX NAME)

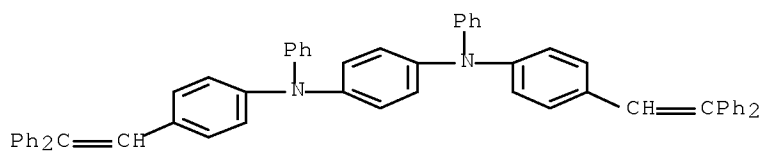


RN 156204-58-9 CAPLUS  
 CN 1,4-Benzenediamine, N1-[4-(2,2-diphenylethenyl)phenyl]-N1,N4-bis(4-  
 methylphenyl)-N4-phenyl- (CA INDEX NAME)



RN 156204-59-0 CAPLUS

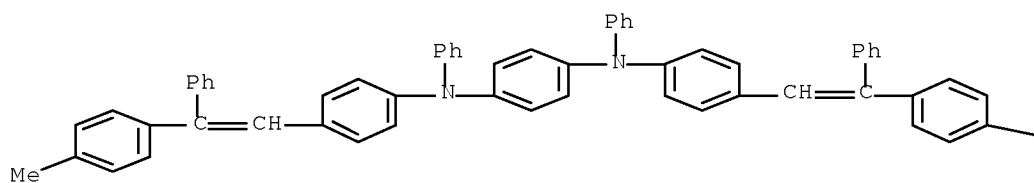
CN 1,4-Benzenediamine, N1,N4-bis[4-(2,2-diphenylethenyl)phenyl]-N1,N4-diphenyl- (CA INDEX NAME)



RN 156204-60-3 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-[2-(4-methylphenyl)-2-phenylethenyl]phenyl]-N1,N4-diphenyl- (CA INDEX NAME)

PAGE 1-A



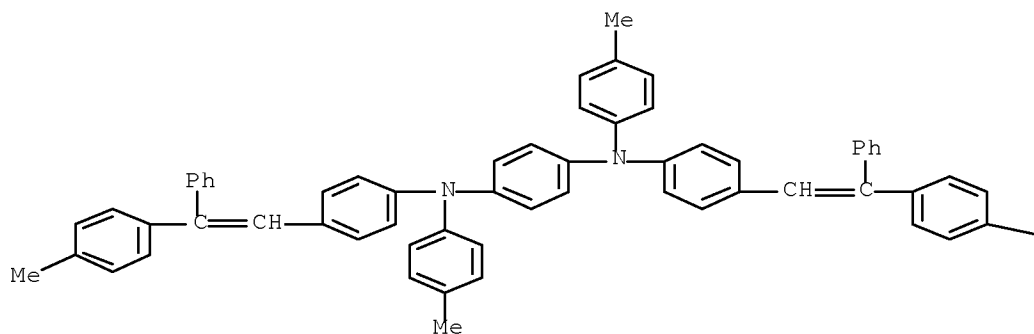
PAGE 1-B



RN 156204-61-4 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-bis[4-[2-(4-methylphenyl)-2-phenylethenyl]phenyl]- (CA INDEX NAME)

PAGE 1-A

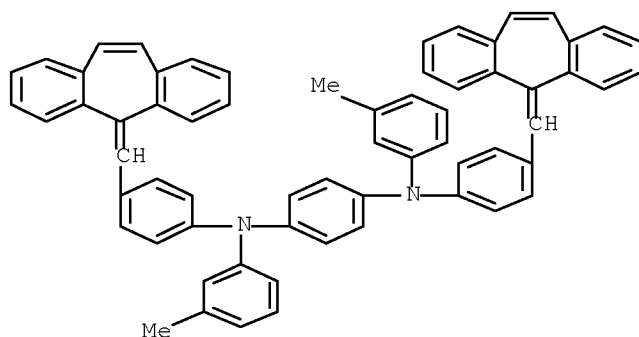


PAGE 1-B

Me

RN 156204-62-5 CAPLUS

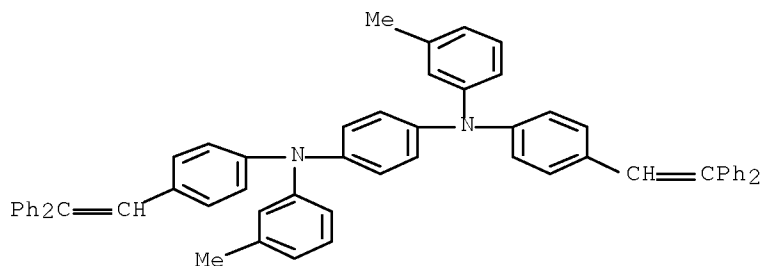
CN 1,4-Benzenediamine, N1,N4-bis[4-(5H-dibenzo[a,d]cyclohepten-5-ylidenemethyl)phenyl]-N1,N4-bis(3-methylphenyl)- (CA INDEX NAME)



RN 156204-63-6 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-(2,2-diphenylethenyl)phenyl]-N1,N4-bis(3-methylphenyl)- (CA INDEX NAME)





L5 ANSWER 440 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1994:231406 CAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 120:231406  
 ORIGINAL REFERENCE NO.: 120:40761a,40764a  
 TITLE: Organic thin film **electroluminescent** device  
 including polyamide hole-transporting layer  
 INVENTOR(S): Ito, Juichi  
 PATENT ASSIGNEE(S): Toppan Printing Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05311163	A	19931122	JP 1992-114692	19920507
PRIORITY APPLN. INFO.:			JP 1992-114692	19920507

AB The title device involves at least an anode, a hole-implanting and transporting layer containing a polyamide of [p-CORC(O)NHC6H4-p-N(A1)A2N(A1)C6H4NH]n (R = dicarboxylic acid residue; A1= aryl; A2 = aromatic diamine residue), a light-emitting layer, and a cathode. The device including the polyamide (e.g., isophthaloyl chloride-N,N'-diphenyl-N,N'-bis(4-aminophenyl)-p-phenylenediamine copolymer) may be manufactured by a high-temperature process, such as spin coating at  $\geq 100^\circ$ .

IT 152197-05-2P 152220-19-4P

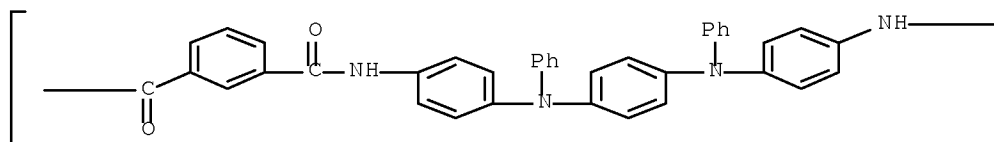
RL: PREP (Preparation)

(preparation of, for hole-implanting and transporting layer for **electroluminescent** device)

RN 152197-05-2 CAPLUS

CN Poly[imino-1,4-phenylene(phenylimino)-1,4-phenylene(phenylimino)-1,4-phenyleneiminocarbonyl-1,3-phenylenecarbonyl] (CA INDEX NAME)

PAGE 1-A

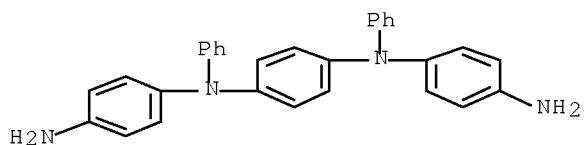


$$\left[ \text{---} \right]_n$$

RN 152220-19-4 CAPLUS  
 CN 1,3-Benzenedicarbonyl dichloride, polymer with  
 N,N'-bis(4-aminophenyl)-N,N'-diphenyl-1,4-benzenediamine (9CI) (CA INDEX  
 NAME)

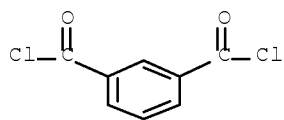
CM 1

CRN 111341-76-5  
 CMF C30 H26 N4



CM 2

CRN 99-63-8  
 CMF C8 H4 Cl2 O2

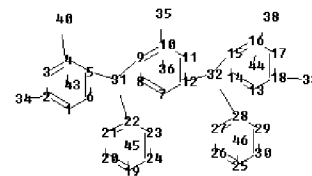
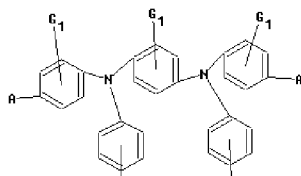


OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD  
 (1 CITINGS)

=>

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Uploading C:\Program Files\STNEXP\Queries\10582459#1.str



chain nodes :

31 32 33 34 35 38 40 41 42

ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23  
24 25 26 27 28 29 30

chain bonds :

2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15

15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27

27-28 28-29

29-30

exact/norm bonds :

2-34 5-31 9-31 12-32 15-32 18-33 22-31 28-32

normalized bonds :

1-2 1-6 2-3 3-4 4-5 5-6 7-8 7-12 8-9 9-10 10-11 11-12 13-14 13-18 14-15

15-16 16-17 17-18 19-20 19-24 20-21 21-22 22-23 23-24 25-26 25-30 26-27

27-28 28-29

29-30

G1: Ak, H

Match level :

1: Atom 2: Atom 3: Atom 4: Atom 5: Atom 6: Atom 7: Atom 8: Atom 9: Atom 10: Atom

11: Atom 12: Atom 13: Atom 14: Atom 15: Atom 16: Atom 17: Atom 18: Atom 19: Atom

20: Atom 21: Atom

22: Atom 23: Atom 24: Atom 25: Atom 26: Atom 27: Atom 28: Atom 29: Atom 30: Atom

31: CLASS 32: CLASS

33: CLASS 34: CLASS 35: CLASS 36: Atom 38: CLASS 40: CLASS 41: CLASS 42: CLASS

43: Atom 44: Atom

45: Atom 46: Atom

L1 STRUCTURE UPLOADED

=> s l1 full

FULL SEARCH INITIATED 15:11:06 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 9757 TO ITERATE

100.0% PROCESSED 9757 ITERATIONS

1783 ANSWERS

SEARCH TIME: 00.00.01

L2 1783 SEA SSS FUL L1

=> s 12

L3 1050 L2

=> s 12 and electrolumin?

1050 L2

100932 ELECTROLUMIN?

L4 440 L2 AND ELECTROLUMIN?

=> d ibib abs hitstr 419-429

L4 ANSWER 419 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:204546 CAPLUS Full-text

DOCUMENT NUMBER: 128:263735

ORIGINAL REFERENCE NO.: 128:52077a,52080a

TITLE: Organic ~~electroluminescent~~ element with  
exciplex-forming materials

INVENTOR(S): Boerner, Herbert; Busselt, Wolfgang; Justel, Thomas;  
Nikol, Hans

PATENT ASSIGNEE(S): Philips Patentverwaltung G.m.b.H., Germany; Philips  
Electronics N.V.; Koninklijke Philips Electronics NV

SOURCE: Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
EP 831676	A2	19980325	EP 1997-202820	19970915
EP 831676	A3	19980715		
EP 831676	B1	20040107		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
DE 19638770	A1	19980326	DE 1996-19638770	19960921
US 5955836	A	19990921	US 1997-933292	19970918
JP 10106748	A	19980424	JP 1997-256865	19970922

PRIORITY APPLN. INFO.: DE 1996-19638770 A 19960921

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

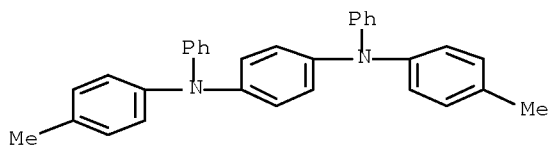
AB ~~Electroluminescent~~ devices are described which have an organic active layer  
comprising a mixture of a hole-transporting material and an electron-  
transporting material which form an exciplex.

IT 138171-14-9

RL: DEV (Device component use); USES (Uses)  
(organic ~~electroluminescent~~ elements with exciplex-forming  
materials)

RN 138171-14-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methylphenyl)-N1,N4-diphenyl- (CA INDEX  
NAME)



OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD  
(9 CITINGS)

L4 ANSWER 420 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:175869 CAPLUS Full-text

DOCUMENT NUMBER: 128:223710

ORIGINAL REFERENCE NO.: 128:44195a, 44198a

TITLE: Heat-resistant organic ~~electroluminescent~~ device

INVENTOR(S): Antoniadis, Homer; Roitman, Daniel B.; Shiang, William R.; Woo, Edmund P.; Wu, Weishi

PATENT ASSIGNEE(S): Hewlett-Packard Co., USA; Dow Chemical Co.

SOURCE: Eur. Pat. Appl., 19 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

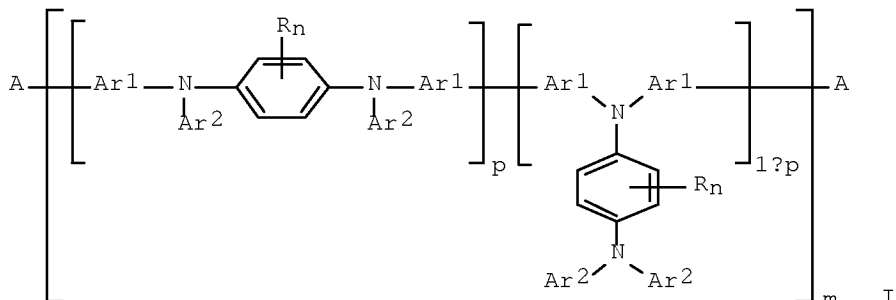
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 827366	A2	19980304	EP 1997-114846	19970827
EP 827366	A3	19980819		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 5948552	A	19990907	US 1996-704476	19960827
JP 10092582	A	19980410	JP 1997-244868	19970827
PRIORITY APPLN. INFO.:			US 1996-704476	A 19960827

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 128:223710

GI



AB Organic ~~electroluminescent~~ devices comprising a substrate, a transparent first conductive layer next to the substrate, an electron-transporting and light-

emitting layer, a hole-transporting layer sandwiched between the first conductive layer and the electron-transporting and light-emitting layer, and a second conductive layer next to the electron-transporting and light-emitting layer and remote from the hole-transporting layer are described in which the hole-transporting layer comprises a poly(arylamine) described by the general formula I (R = independently selected C1-24 hydrocarbyl, hydrocarboxyl, hydrothiocarboxy, hydroarylcарoxy, or hydrothioarylcарoxy groups; Ar1 and Ar2 = independently selected C6-18 aryl groups optionally substituted with  $\geq 1$  C1-24 hydrocarbyl, hydrocarboxyl, hydrothiocarboxy, hydroarylcарoxy, or hydrothioarylcарoxy groups; A = independently selected groups selected from H and halogens; p = 0-1; n = 0-4; and m = 5-1000).

IT 113703-67-6P 202873-05-0P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(heat-resistant organic electroluminescent devices with polyarylamine hole-transporting layers)

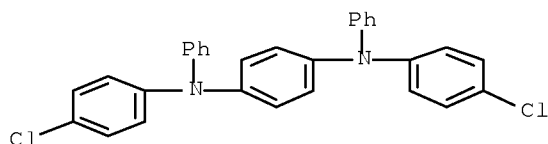
RN 113703-67-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 113703-66-5

CMF C30 H22 Cl2 N2



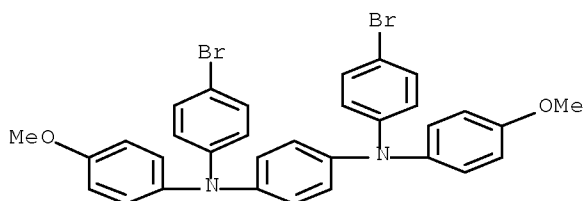
RN 202873-05-0 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-methoxyphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 202873-04-9

CMF C32 H26 Br2 N2 O2



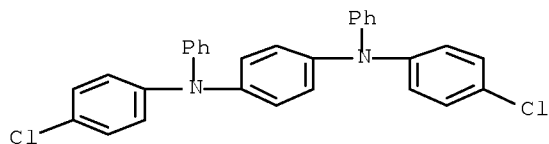
IT 113703-66-5P 124526-50-7P 202873-04-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(heat-resistant organic electroluminescent devices with  
polyarylamine hole-transporting layers)

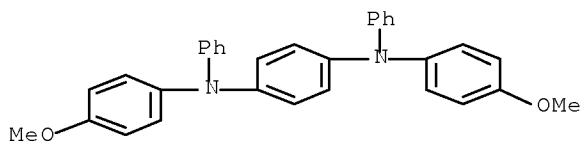
RN 113703-66-5 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-chlorophenyl)-N1,N4-diphenyl- (CA INDEX  
NAME)



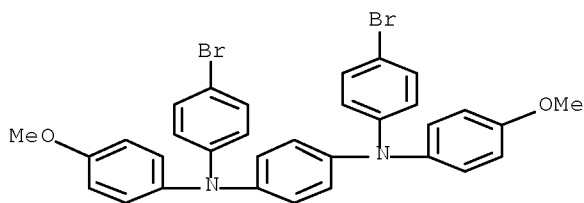
RN 124526-50-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX  
NAME)



RN 202873-04-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-methoxyphenyl)-  
(CA INDEX NAME)



OS.CITING REF COUNT: 19 THERE ARE 19 CAPLUS RECORDS THAT CITE THIS  
RECORD (19 CITINGS)

L4 ANSWER 421 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:126295 CAPLUS Full-text

DOCUMENT NUMBER: 128:180801

ORIGINAL REFERENCE NO.: 128:35685a,35688a

TITLE: Polyarylamines, their preparation, and films thereof

INVENTOR(S): Wu, Weishi; Shiang, William R.; Woo, Edmund P.

PATENT ASSIGNEE(S): Dow Chemical Company, USA

SOURCE: PCT Int. Appl., 25 pp.

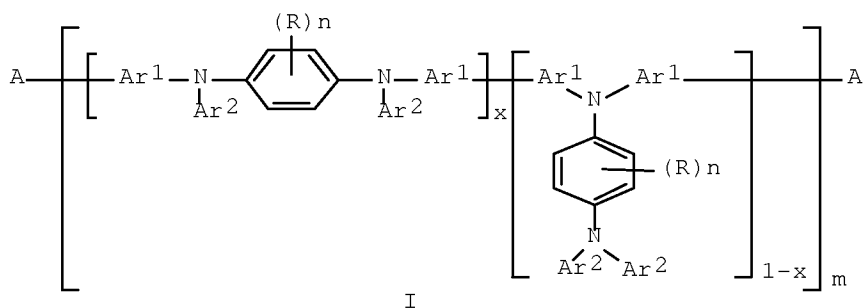
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806773	A1	19980219	WO 1997-US12478	19970714
W: JP, KR				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 5728801	A	19980317	US 1996-696281	19960813
EP 918811	A1	19990602	EP 1997-939338	19970714
EP 918811	B1	20001227		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AT 198338	T	20010115	AT 1997-939338	19970714
JP 2001503074	T	20010306	JP 1998-509717	19970714
JP 4172821	B2	20081029		
KR 2000029916	A	20000525	KR 1999-701113	19990210
JP 2008069367	A	20080327	JP 2007-279072	20071026
PRIORITY APPLN. INFO.:			US 1996-696281	A 19960813
			JP 1998-509717	A3 19970714
			WO 1997-US12478	W 19970714

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT  
 GI



AB A poly(arylamine) composition comprises one or more compds. of structure I (R = C1-24 hydrocarbyl, C1-24 hydrocarboxy, C1-24 hydrocarbylthiooxy, C1-24 hydrocarbylcarboxyl; Ar1, Ar2 = C6-18 aryl, C1-12 hydrocarbyl-, C1-12 hydrocarbyloxy-, C1-12 hydrocarbylthiooxy-, C1-12 hydrocarbylcarboxyl-substituted C6-18 aryl, A = H, halogen; x = 0, 1; n = 0-4; m = 5-1000). The monomers useful in the preparation of polyarylamines comprise two amino moieties wherein each amino moiety is bound to three aryl moieties wherein two halo moieties are optionally bound to the monomer. The invention further relates to films prepared from such polyarylamines, as well as electrophotog. devices and electroluminescent devices containing such films, such as polymeric light-emitting diodes. The invention also relates to processes for the preparation of polyarylamines.

IT 113703-67-6P 202873-05-0P

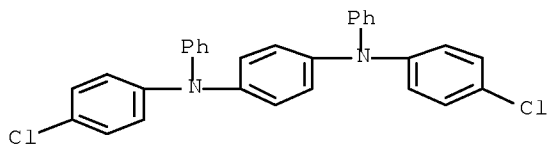
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyarylamines, their preparation, and films thereof)



RN 113703-67-6 CAPLUS  
CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer  
(9CI) (CA INDEX NAME)

CM 1

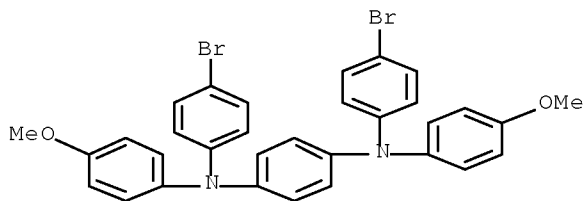
CRN 113703-66-5  
CMF C30 H22 Cl2 N2



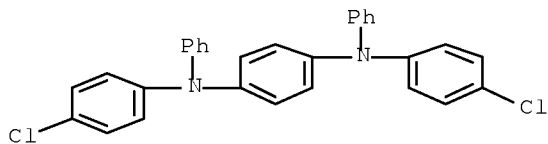
RN 202873-05-0 CAPLUS  
CN 1,4-Benzenediamine, N,N'-bis(4-bromophenyl)-N,N'-bis(4-methoxyphenyl)-,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 202873-04-9  
CMF C32 H26 Br2 N2 O2

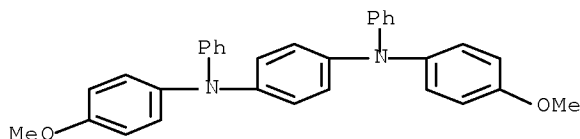


IT 113703-66-5P 124526-50-7P 202873-04-9P  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(polyarylamines, their preparation, and films thereof)  
RN 113703-66-5 CAPLUS  
CN 1,4-Benzenediamine, N1,N4-bis(4-chlorophenyl)-N1,N4-diphenyl- (CA INDEX  
NAME)



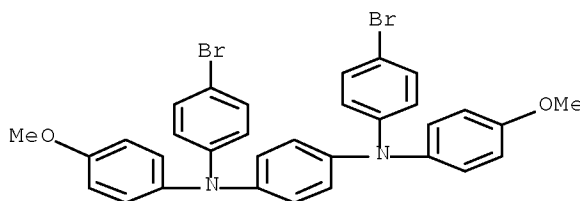
RN 124526-50-7 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-methoxyphenyl)-N1,N4-diphenyl- (CA INDEX NAME)



RN 202873-04-9 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis(4-methoxyphenyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 28 THERE ARE 28 CAPLUS RECORDS THAT CITE THIS RECORD (33 CITINGS)  
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 422 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1998:116628 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 128:173587

ORIGINAL REFERENCE NO.: 128:34101a,34104a

TITLE: A novel class of  $\pi$ -electron dendrimers for thermally and morphologically stable amorphous molecular materials

AUTHOR(S): Katsuma, Katsuhiko; Shirota, Yasuhiko

CORPORATE SOURCE: Department Applied Chemistry, Faculty Engineering, Osaka University, Suita, 565, Japan

SOURCE: Advanced Materials (Weinheim, Germany) (1998), 10(3), 223-226

CODEN: ADVMEW; ISSN: 0935-9648

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The novel organic hyperbranched  $\pi$ -electron systems, 1,3,5-tris[N-(4'-methylbiphenyl-4-yl)-N-(4-diphenylaminophenyl)amino]benzene (TDAB-G1(a)) and 1,3,5-tris[N-[4-bis(4-methylphenyl)aminophenyl]-N-(4-diphenylaminophenyl)amino]benzene (TDAB-G1(b)), were synthesized via the Ullmann reaction and characterized by <sup>1</sup>H-, <sup>13</sup>C-NMR, electron absorption spectroscopy, and elemental anal. TDAB-G1(a) was obtained as a polycryst. material, whereas TDAB-G1(b) was an amorphous glass. DSC anal. of TDAB-G1(a) gave a m.p. of 187°. When the melted sample was cooled in air, a glass was formed spontaneously. Reheating of the glass sample resulted in a glass

transition at  $T_g = 128^\circ$  giving a supercooled liquid. Likewise, the amorphous repptd. sample of TDAB-G1(b) exhibited a glass transition at  $T_g = 134^\circ$  when heated. Unique multiredox processes involving as many as 6- and 9-electron reversible oxidns. were observed in the cyclic voltammograms of TDAB-G1(a) and TDAB-G1(b), resp. TDAB-G1(b) was used as a hole-transport material in a multilayer organic LED consisting of the double-hole transport layer and an emitting layer which contained N,N'-diphenyl-N,N'-bis(3-methylphenyl)-[1,1'-biphenyl]-4,4'-diamine (TPD) doped with rubrene as the emitting material and with tris(8-quinolinolato) Al as the electron transport material. This device emitted yellow light and the electroluminescence showed a peak at 560 nm in agreement with the luminescence peak of rubrene.

IT 874946-05-1P

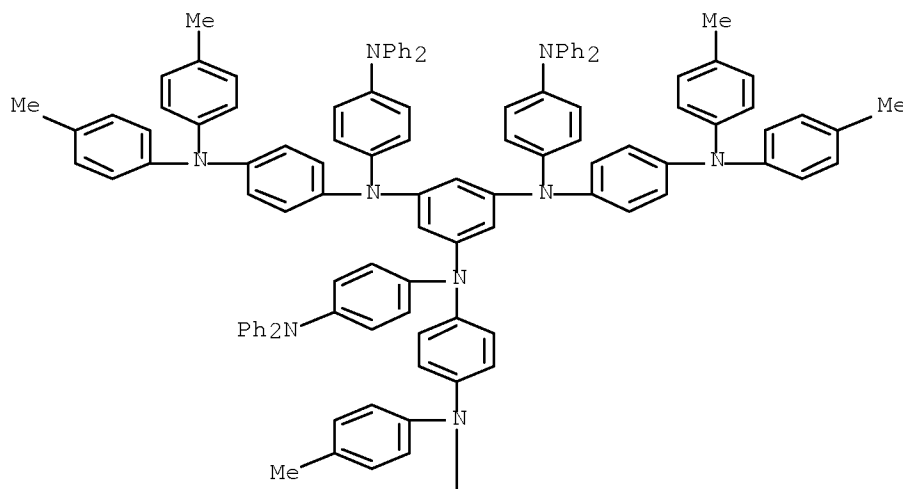
RL: SPN (Synthetic preparation); PRP (Properties); PREP (Preparation)

(A novel class of  $\pi$ -electron dendrimers for thermally and morphologically stable amorphous molecular materials)

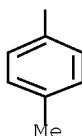
RN 874946-05-1 CAPLUS

CN 1,3,5-Benzenetriamine, N1,N3,N5-tris[4-[bis(4-methylphenyl)amino]phenyl]-  
N1,N3,N5-tris[4-(diphenylamino)phenyl]- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IT 202868-45-9P

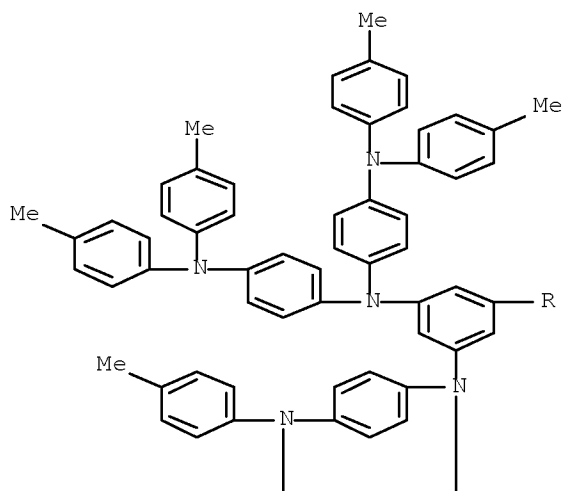
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)

(preparation, glass transition, redox potential, and application in LED as hole transport material of)

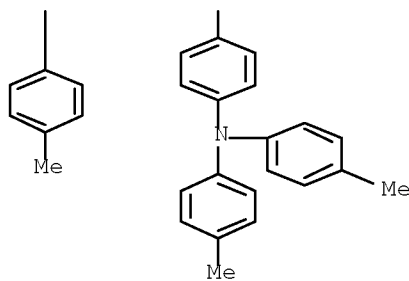
RN 202868-45-9 CAPLUS

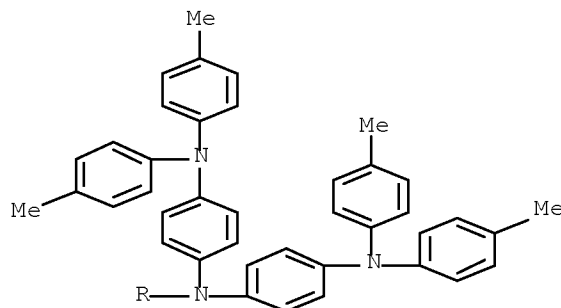
CN 1,3,5-Benzenetriamine, N1,N1,N3,N3,N5,N5-hexakis[4-[bis(4-methylphenyl)amino]phenyl]- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A





OS.CITING REF COUNT: 111 THERE ARE 111 CAPLUS RECORDS THAT CITE THIS RECORD (111 CITINGS)

L4 ANSWER 423 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1997:743868 CAPLUS Full-text

DOCUMENT NUMBER: 128:68313

ORIGINAL REFERENCE NO.: 128:13227a,13230a

TITLE: Hole transport material and organic electroluminescent device

INVENTOR(S): Uekawa, Masahiro; Nakaya, Tadao

PATENT ASSIGNEE(S): Oki Electric Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

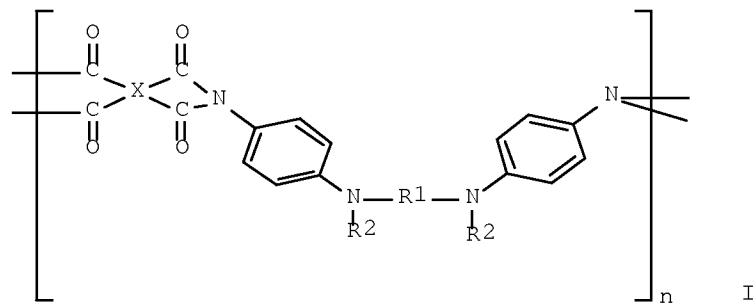
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

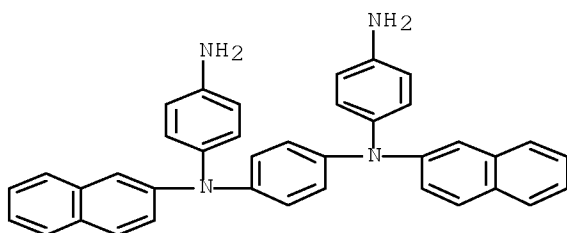
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09298089	A	19971118	JP 1996-111352	19960502
PRIORITY APPLN. INFO.:			JP 1996-111352	19960502

GI

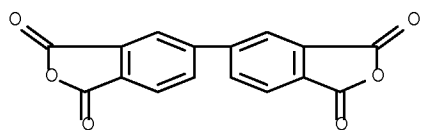


AB A hole transport material used in organic electroluminescent device is a polyimide represented by I [X = benzene ring-containing group; R1-2 = aromatic group]. The claimed hole transport material has excellent heat-resistant properties, thereby enhancing the device lifetime.

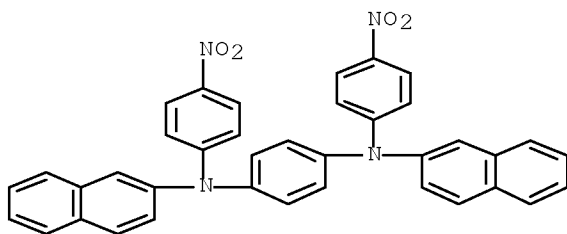
IT 200192-09-2P  
 RL: DEV (Device component use); SPN (Synthetic preparation); PREP  
 (Preparation); USES (Uses)  
 (hole transport material and organic electroluminescent device)  
 RN 200192-09-2 CAPLUS  
 CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with  
 N,N'-bis(4-aminophenyl)-N,N'-di-2-naphthalenyl-1,4-benzenediamine (9CI)  
 (CA INDEX NAME)  
 CM 1  
 CRN 200192-07-0  
 CMF C38 H30 N4



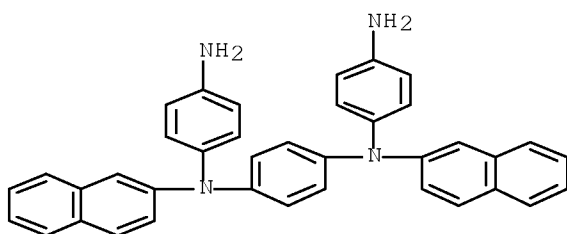
CM 2  
 CRN 2420-87-3  
 CMF C16 H6 O6



IT 200192-05-8P 200192-07-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (hole transport material and organic electroluminescent device)  
 RN 200192-05-8 CAPLUS  
 CN 1,4-Benzenediamine, N1,N4-di-2-naphthalenyl-N1,N4-bis(4-nitrophenyl)- (CA  
 INDEX NAME)



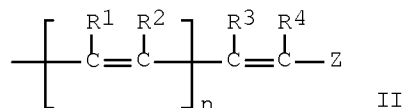
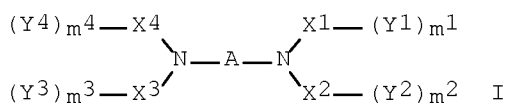
RN 200192-07-0 CAPLUS  
 CN 1,4-Benzenediamine, N1,N4-bis(4-aminophenyl)-N1,N4-di-2-naphthalenyl- (CA  
 INDEX NAME)



OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD  
 (2 CITINGS)

L4 ANSWER 424 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1997:678708 CAPLUS Full-text  
 DOCUMENT NUMBER: 128:17237  
 ORIGINAL REFERENCE NO.: 128:3255a,3258a  
 TITLE: Organic electroluminescent device elements  
 INVENTOR(S): Enokida, Toshio; Tamano, Michiko  
 PATENT ASSIGNEE(S): Toyo Ink Mfg. Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 33 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09268284	A	19971014	JP 1996-78501	19960401
JP 3564859	B2	20040915		
PRIORITY APPLN. INFO.:			JP 1996-78501	19960401
OTHER SOURCE(S):	MARPAT	128:17237		
GI				

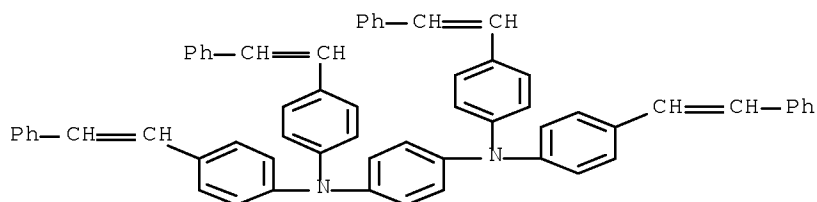


AB The elements comprise the phosphors I containing II; I [A, X1-4 = C2-20 arylene; m1, m2, m3, m4 = 0-2; Y1-4 = II] II [R1-4 = H, (un)substituted alkyl, (un)substituted aryl, CN; Z = (un)substituted aryl; n = 0, 1]; a tertiary amine derivative (B1,2N)G(NB3,4) formed between the phosphor and the anode [B1-4 = (un)substituted C6-20 aryl; G = (un)substituted arylene]; and a metal complex Q1,2GaL formed between the phosphor and the cathode [Q1,2 = (un)substituted hydrobenzoquinoline derivative; L = halo, (un)substituted (cyclo)alkyl, aryl cong. optional (un)substituted N, OR (R ≡ L)].

IT 198903-36-5 198903-38-7 198903-54-7  
 RL: DEV (Device component use); USES (Uses)  
 (organic electroluminescent device elements)

RN 198903-36-5 CAPLUS

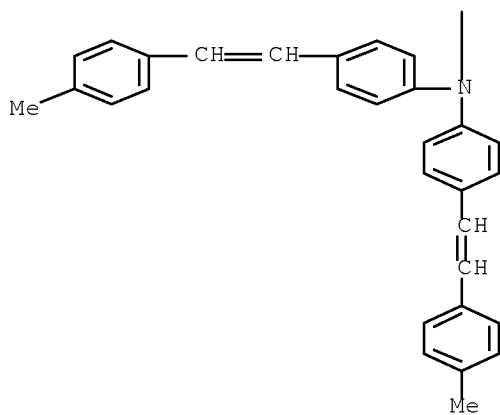
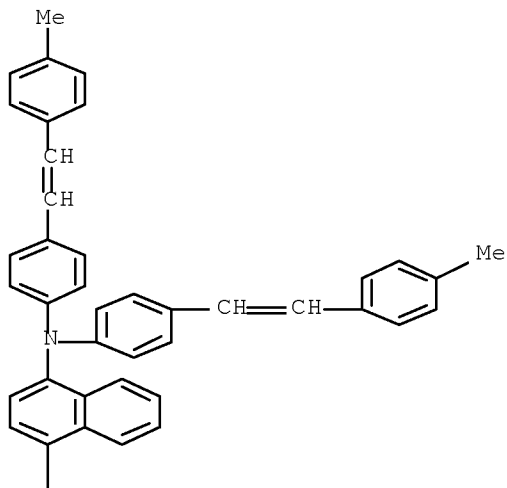
CN 1,4-Benzenediamine, N1,N1,N4,N4-tetrakis[4-(2-phenylethenyl)phenyl]- (CA INDEX NAME)



RN 198903-38-7 CAPLUS

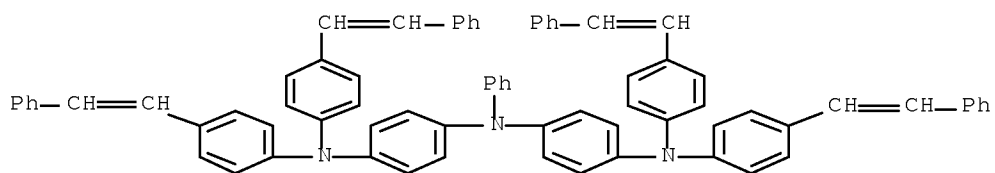
CN 1,4-Naphthalenediamine, N1,N1,N4,N4-tetrakis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (CA INDEX NAME)





RN 198903-54-7 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[bis[4-(2-phenylethenyl)phenyl]amino]phenyl]-N1-phenyl-N4,N4-bis[4-(2-phenylethenyl)phenyl]- (CA INDEX NAME)



## (5 CITINGS)

L4 ANSWER 425 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
 ACCESSION NUMBER: 1997:618270 CAPLUS Full-text  
 DOCUMENT NUMBER: 127:263592  
 ORIGINAL REFERENCE NO.: 127:51481a,51484a  
 TITLE: Crosslinkable or chain extendable polyarylpolyamines  
 and films for electroluminescent devices  
 INVENTOR(S): Woo, Edmund P.; Inbasekaran, Michael; Shiang, William  
 R.; Roof, Gordon R.; Wu, Weishi  
 PATENT ASSIGNEE(S): Dow Chemical Co., USA  
 SOURCE: PCT Int. Appl., 57 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9733193	A2	19970912	WO 1997-US2643	19970220
WO 9733193	A3	20020926		
W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, YU			
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
AU 9722776	A	19970922	AU 1997-22776	19970220
US 5929194	A	19990727	US 1997-967348	19971027
PRIORITY APPLN. INFO.:			US 1996-606180	A 19960223
			US 1996-696280	A 19960813
			WO 1997-US2643	W 19970220

## ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OTHER SOURCE(S): MARPAT 127:263592

AB The polyarylpolyamines are prepared by the reaction of  $\geq 1$  tertiary di- or polyarylamine having 2 halogen substituents with a haloarom. compound having a crosslinkable reactive group or trialkylsiloxy moiety. Films of the title compds., as well as films of polymers of their crosslinkable species, are efficient in the transport of pos. charges when exposed to relatively low voltage levels, and demonstrate solvent and heat resistance.

IT 113703-67-6P

RL: IMF (Industrial manufacture); PREP (Preparation)  
 (crosslinkable or chain extendable polyarylpolyamines for  
 solvent-resistant films for electroluminescent devices)

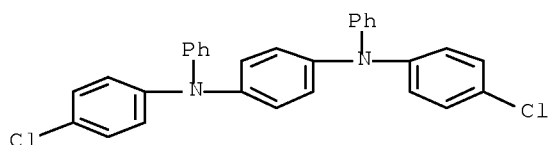
RN 113703-67-6 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-chlorophenyl)-N,N'-diphenyl-, homopolymer  
 (9CI) (CA INDEX NAME)

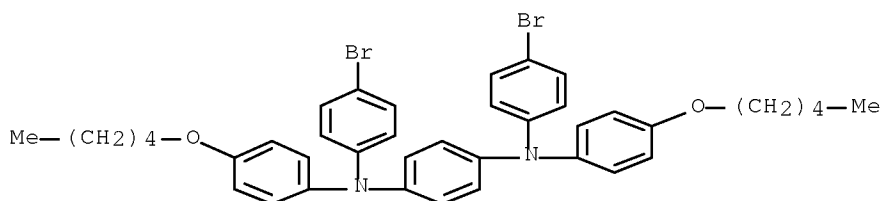
CM 1

CRN 113703-66-5

CMF C30 H22 C12 N2



IT 195730-42-8DP, reaction products with silyl-containing  
benzeneboronic acid  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT  
(Reactant or reagent)  
(crosslinkable or chain extendable polyarylpolyamines for  
solvent-resistant films for electroluminescent devices)  
RN 195730-42-8 CAPLUS  
CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis[4-  
(pentyloxy)phenyl]- (CA INDEX NAME)

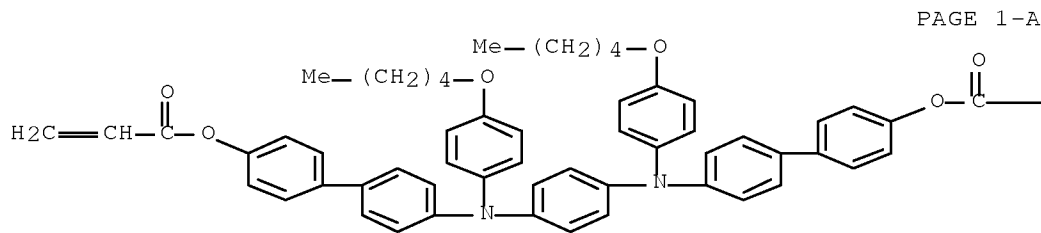


IT 195730-45-1P 195730-55-3P  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(film; crosslinkable or chain extendable polyarylpolyamines for  
solvent-resistant films for electroluminescent devices)  
RN 195730-45-1 CAPLUS  
CN 2-Propenoic acid, 2-ethyl-2-[[[(1-oxo-2-propenyl)oxy]methyl]-1,3-  
propanediyl ester, polymer with 1,4-phenylenebis[[[4-  
(pentyloxy)phenyl]imino][1,1'-biphenyl]-4',4-diyl] di-2-propenoate (9CI)  
(CA INDEX NAME)

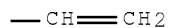
CM 1

CRN 195730-44-0

CMF C58 H56 N2 O6



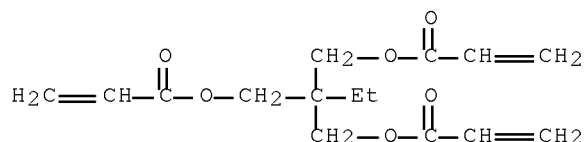
PAGE 1-A



CM 2

CRN 15625-89-5

CMF C15 H20 O6



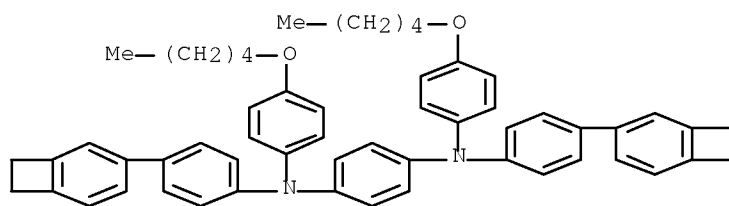
RN 195730-55-3 CAPLUS

CN 1,4-Benzenediamine, N,N'-bis(4-bicyclo[4.2.0]octa-1,3,5-trien-3-ylphenyl)-  
N,N'-bis[4-(pentyloxy)phenyl]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 195730-53-1

CMF C56 H56 N2 O2



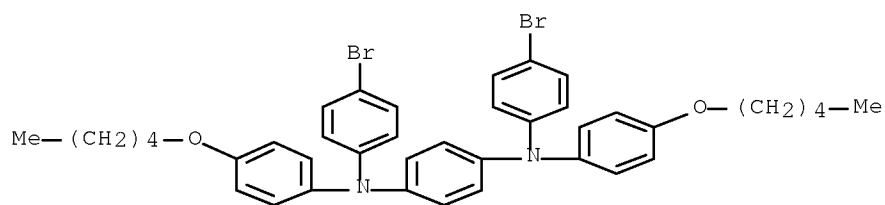
IT 195730-42-8P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; crosslinkable or chain extendable polyarylpolyamines for solvent-resistant films for electroluminescent devices)

RN 195730-42-8 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bromophenyl)-N1,N4-bis[4-(  
(pentyloxy)phenyl]- (CA INDEX NAME)



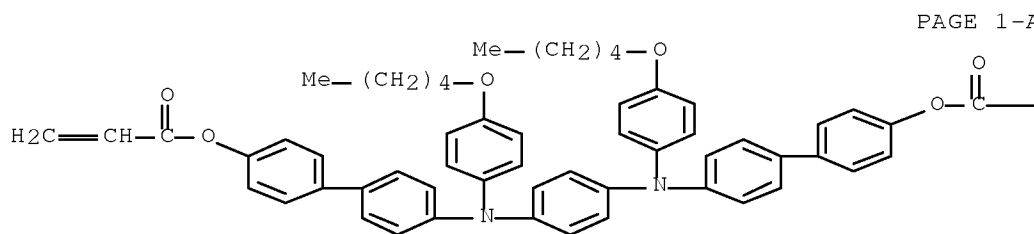
IT 195730-44-0P 195730-53-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(preparation and polymerization; crosslinkable or chain extendable polyarylpolyamines for solvent-resistant films for electroluminescent devices)

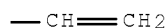
RN 195730-44-0 CAPLUS

CN 2-Propenoic acid, 1,4-phenylenebis[[(4-pentyloxy)phenyl]imino][1,1'-biphenyl]-4',4-diyl ester (9CI) (CA INDEX NAME)



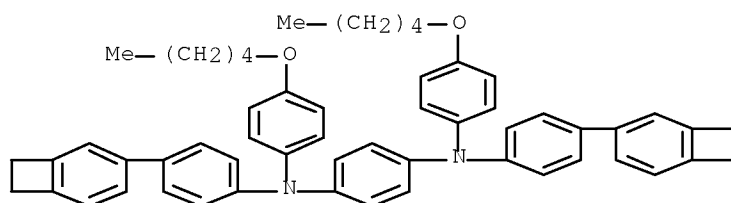
PAGE 1-A

PAGE 1-B



RN 195730-53-1 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis(4-bicyclo[4.2.0]octa-1,3,5-trien-3-ylphenyl)-N1,N4-bis[4-(pentyloxy)phenyl]- (CA INDEX NAME)



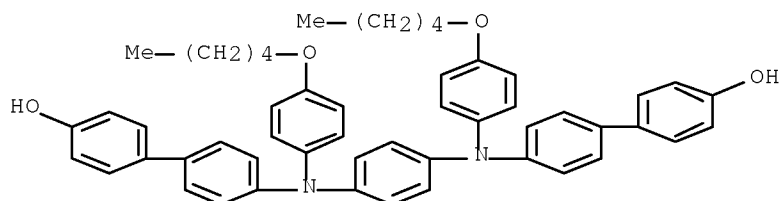
IT 195730-43-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(reaction with acryloyl chloride; crosslinkable or chain extendable polyarylpolyamines for solvent-resistant films for electroluminescent devices)

RN 195730-43-9 CAPLUS

CN [1,1'-Biphenyl]-4-ol, 4',4'''-[1,4-phenylenebis[[4-(pentyloxy)phenyl]imino]]bis- (9CI) (CA INDEX NAME)



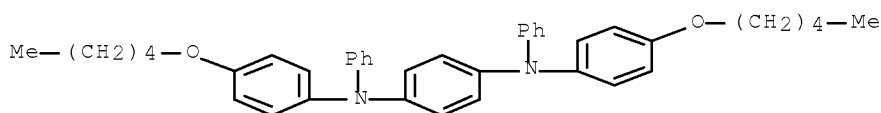
IT 195730-40-6P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(reaction with bromosuccinimide; crosslinkable or chain extendable polyarylpolyamines for solvent-resistant films for electroluminescent devices)

RN 195730-40-6 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-(pentyloxy)phenyl]-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 27 THERE ARE 27 CAPLUS RECORDS THAT CITE THIS RECORD (31 CITINGS)  
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 426 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1997:563439 CAPLUS [Full-text](#)

DOCUMENT NUMBER: 127:191351

ORIGINAL REFERENCE NO.: 127:37119a,37122a

TITLE: Synthesis of polymers for hole and electron transport materials in organic electroluminescent devices

AUTHOR(S): Son, Jhun Mo; Sakaki, Yuichi; Ogino, Kenji; Sato, Hisaya

CORPORATE SOURCE: Faculty of Technology, Tokyo University of Agriculture and Technology, Tokyo, 184, Japan

SOURCE: IEEE Transactions on Electron Devices (1997), 44(8),

1307-1314

CODEN: IETDAI; ISSN: 0018-9383

PUBLISHER: Institute of Electrical and Electronics Engineers

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Styrene-type polymers having tetraphenylbenzidine (TPD) or tetraphenylphenyldiaminobenzene unit (PDA) and a oxadiazole unit on the side chain were prepared as hole and electron transport materials, resp., of an electroluminescent device. The device structures employed were [ITO/hole transport layer/Al] (type I), or [ITO/hole transport layer/electron transport layer/Al] (type II). Type I devices provided c.d. higher than 100 mA/cm<sup>2</sup> but no luminescence was observed. Type II devices emitted luminescence of about 10 cd/m<sup>2</sup> at the c.d. of about 170 mA/cm<sup>2</sup>. The emission maximum of these devices were 460 and 530 nm for the device using TPD and PDA, resp.

IT 194354-35-3P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of styrene derivative polymers for hole and electron transport materials in organic electroluminescent devices)

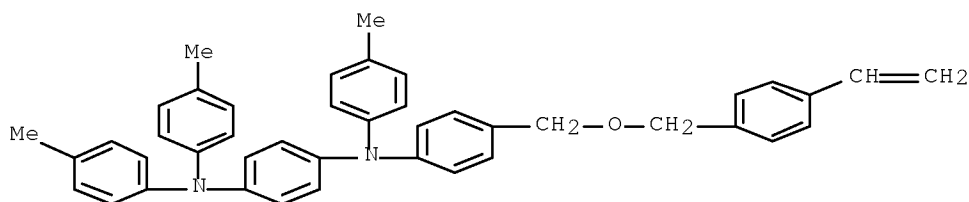
RN 194354-35-3 CAPLUS

CN 1,4-Benzenediamine, N-[4-[(4-ethenylphenyl)methoxy)methyl]phenyl]-N,N',N'-tris(4-methylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 194354-34-2

CMF C43 H40 N2 O



OS.CITING REF COUNT: 20 THERE ARE 20 CAPLUS RECORDS THAT CITE THIS RECORD (20 CITINGS)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 427 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1997:480901 CAPLUS Full-text

DOCUMENT NUMBER: 127:115061

ORIGINAL REFERENCE NO.: 127:22069a,22072a

TITLE: Hole-transporting material and use thereof

INVENTOR(S): Tamano, Michiko; Okutsu, Satoshi; Enokida, Toshio

PATENT ASSIGNEE(S): Toyo Ink Manufacturing Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 32 pp.

CODEN: EPXXDW

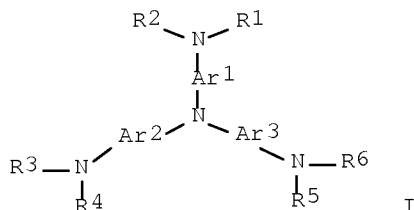
DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 779765	A2	19970618	EP 1996-309019	19961211
EP 779765	A3	19970730		
EP 779765	B1	20010801		
R: DE, FR, GB				
JP 09222741	A	19970826	JP 1996-306049	19961118
PRIORITY APPLN. INFO.:			JP 1995-321345	A 19951211
			JP 1996-306049	A 19961118
OTHER SOURCE(S):		MARPAT 127:115061		
GI				



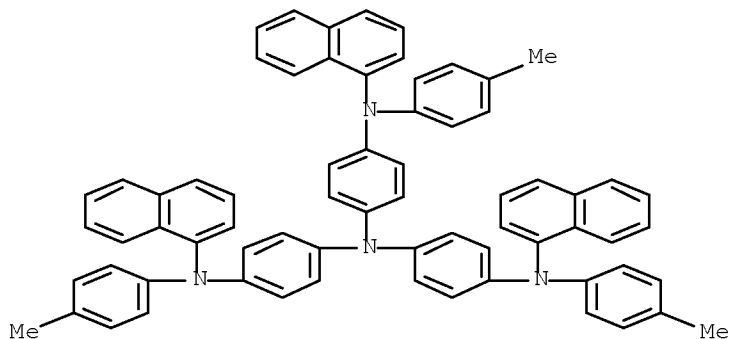
AB Hole-transporting materials comprise triaryl amines described by the general formula I (R1-6 = (un)substituted aryl groups; and Ar1-3 = (un)substituted arylene groups, with the restriction that  $\geq 1$  of R1-6 = comprises fused aromatic rings or is an aryl group having a cycloalkyl ring). Organic electroluminescent devices and electrophotog. photoreceptors employing the materials are also described.

IT 192180-91-9 192180-92-0 192180-93-1  
 192180-96-4 192180-97-5 192181-00-3  
 192181-04-7 192181-17-2 192181-18-3

RL: DEV (Device component use); PRP (Properties); USES (Uses)  
 (aryl amine hole-transporting materials and apparatus using them)

RN 192180-91-9 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methylphenyl)-N4,N4-bis[4-[(4-methylphenyl)-1-naphthalenylamino]phenyl]-N1-1-naphthalenyl- (CA INDEX NAME)

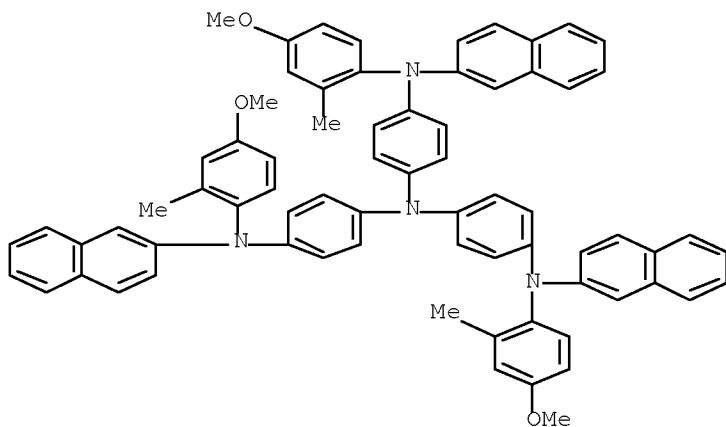


RN 192180-92-0 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methoxy-2-methylphenyl)-N4,N4-bis[4-[(4-methoxy-2-methylphenyl)-2-naphthalenylamino]phenyl]-N1-2-naphthalenyl- (CA INDEX NAME)

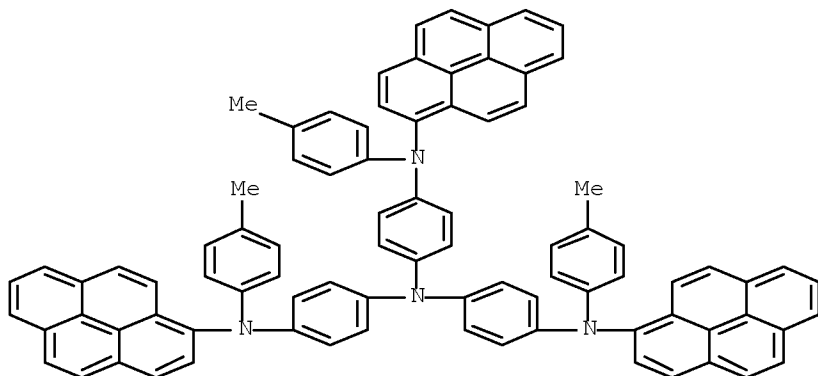


NAME)



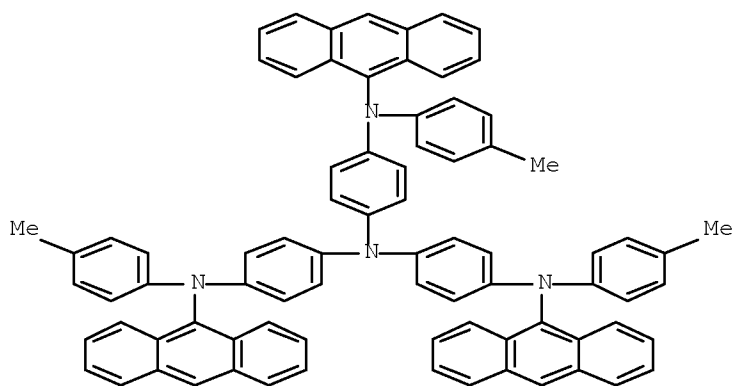
RN 192180-93-1 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methylphenyl)-N4,N4-bis[4-[(4-methylphenyl)-1-pyrenylamino]phenyl]-N1-1-pyrenyl- (CA INDEX NAME)



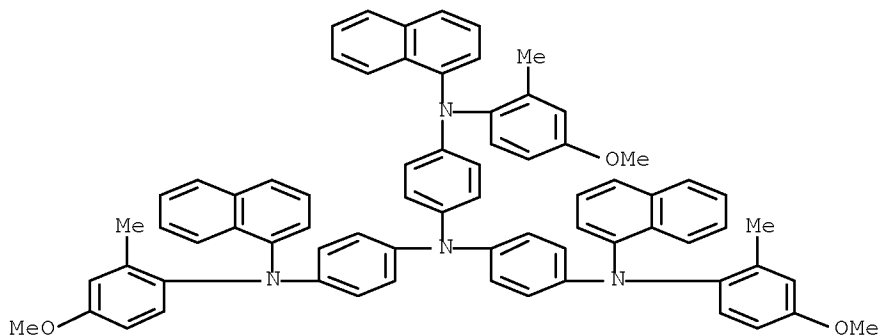
RN 192180-96-4 CAPLUS

CN 1,4-Benzenediamine, N1-9-anthracenyl-N4,N4-bis[4-[9-anthracenyl(4-methylphenyl)amino]phenyl]-N1-(4-methylphenyl)- (CA INDEX NAME)



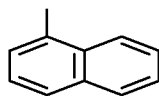
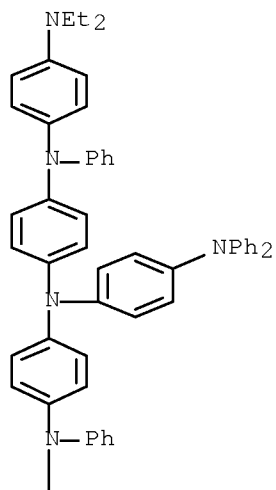
RN 192180-97-5 CAPLUS

CN 1,4-Benzenediamine, N1-(4-methoxy-2-methylphenyl)-N4,N4-bis[4-[(4-methoxy-2-methylphenyl)-1-naphthalenylamino]phenyl]-N1-1-naphthalenyl- (CA INDEX NAME)

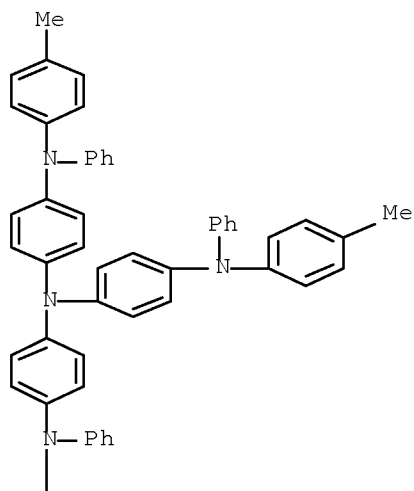


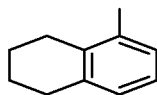
RN 192181-00-3 CAPLUS

CN 1,4-Benzenediamine, N1-[4-(diethylamino)phenyl]-N4-[4-(diphenylamino)phenyl]-N4-[4-(1-naphthalenylphenylamino)phenyl]-N1-phenyl- (CA INDEX NAME)



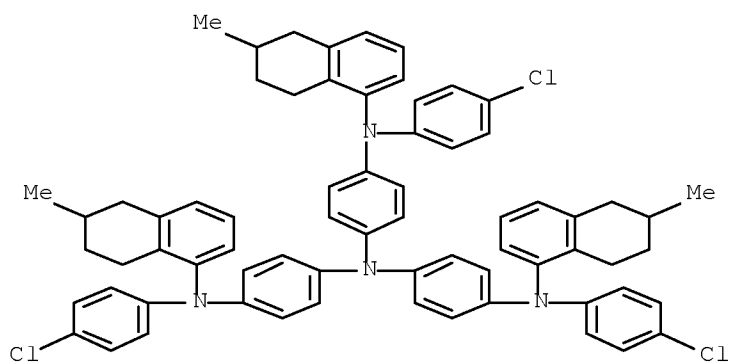
RN 192181-04-7 CAPLUS  
 CN 1,4-Benzenediamine, N1,N1-bis[4-[(4-methylphenyl)phenylamino]phenyl]-N4-phenyl-N4-(5,6,7,8-tetrahydro-1-naphthalenyl)- (CA INDEX NAME)





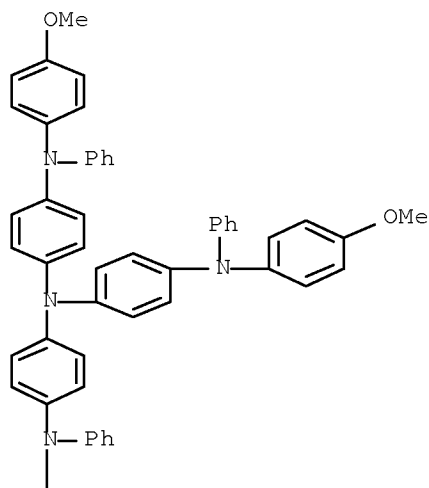
RN 192181-17-2 CAPLUS

CN 1,4-Benzenediamine, N1-(4-chlorophenyl)-N4,N4-bis[4-[(4-chlorophenyl)(5,6,7,8-tetrahydro-6-methyl-1-naphthalenyl)amino]phenyl]-N1-(5,6,7,8-tetrahydro-6-methyl-1-naphthalenyl)- (CA INDEX NAME)



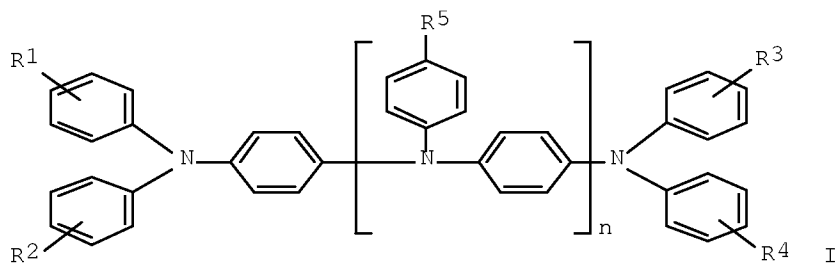
RN 192181-18-3 CAPLUS

CN 1,4-Benzenediamine, N1,N1-bis[4-[(4-methoxyphenyl)phenylamino]phenyl]-N4-phenyl-N4-(5,6,7,8-tetrahydro-1-naphthalenyl)- (CA INDEX NAME)



L4 ANSWER 428 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN  
ACCESSION NUMBER: 1997:469997 CAPLUS Full-text  
DOCUMENT NUMBER: 127:101553  
ORIGINAL REFERENCE NO.: 127:19443a,19446a  
TITLE: Organic thin film ~~electroluminescent~~ device  
elements  
INVENTOR(S): Ito, Yuichi; Ogino, Kenji; Sato, Hisaya  
PATENT ASSIGNEE(S): Toppan Printing Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09151371	A	19970610	JP 1995-312576	19951130
PRIORITY APPLN. INFO.:			JP 1995-312576	19951130
GI				



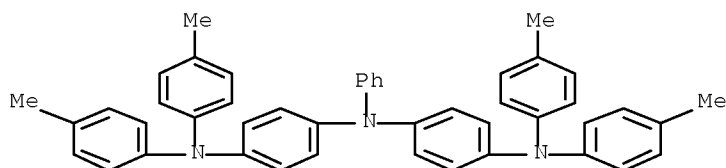
AB The elements comprise a transparent substrate; an ITO electrode; a hole-injection layer containing I (R1-5 = H, Me, methoxy, Ph, trifluoromethyl, OH, hydroxymethyl, formyl, NH2, double bonded group, epoxy ring; n = 1, 2); an Alq3 phosphor; a MgAg electrode; a GeO sealant; and a glass/resin encapsulation.

IT 191795-04-7 191795-08-1  
RL: DEV (Device component use); USES (Uses)

(organic thin film electroluminescent device elements)

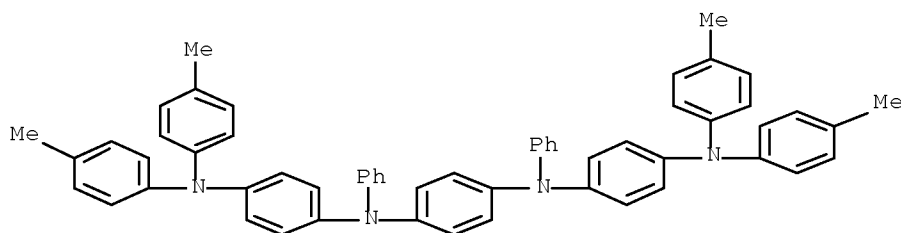
RN 191795-04-7 CAPLUS

CN 1,4-Benzenediamine, N1-[4-[bis(4-methylphenyl)amino]phenyl]-N4,N4-bis(4-methylphenyl)-N1-phenyl- (CA INDEX NAME)



RN 191795-08-1 CAPLUS

CN 1,4-Benzenediamine, N1,N4-bis[4-[bis(4-methylphenyl)amino]phenyl]-N1,N4-diphenyl- (CA INDEX NAME)



OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

L4 ANSWER 429 OF 440 CAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 1996:746286 CAPLUS Full-text

DOCUMENT NUMBER: 126:39392

ORIGINAL REFERENCE NO.: 126:7705a, 7708a

TITLE: Organic thin-film electroluminescent device

INVENTOR(S): Ito, Juichi; Sato, Hisaya; Hayashi, Takako

PATENT ASSIGNEE(S): Toppan Printing Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08259935	A	19961008	JP 1995-65611	19950324
JP 3646339	B2	20050511		

PRIORITY APPLN. INFO.: JP 1995-65611 19950324

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\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB An organic thin-film ~~electroluminescent~~ device, suited for use in optical displays, comprises a multilayer structure including an organic light-emitting layer and a hole injection/transport layer containing a compound represented by I ( G1 = CH or N; G2, G3 = H, C1-4 alkyl, alkoxy, dialkylamino, Q1, Q2, Q3, Q4, a group containing  $\geq 1$  benzene, naphthalene, anthracene, and perylene rings, benzene or naphthalene rings condensed with the Ph group in I; R = H, C1-4 alkyl, alkoxy, and dialkylamino).

IT 184159-36-2

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(organic thin-film ~~electroluminescent~~ device)

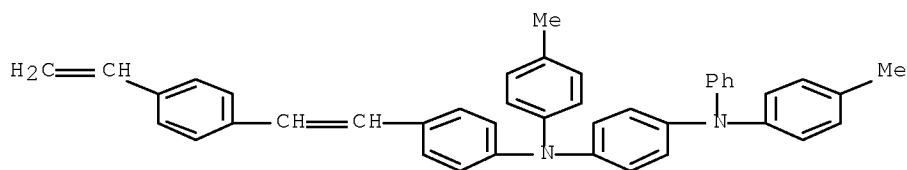
RN 184159-36-2 CAPLUS

CN 1,4-Benzenediamine, N-[4-[2-(4-ethenylphenyl)ethenyl]phenyl]-N,N'-bis(4-methylphenyl)-N'-phenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 184159-35-1

CMF C42 H36 N2



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